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Medical

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JANUARY, 1943

Number 1

Medical Schools and the War Effort*

L. R. CHANDLER

Dean, Stanford University School of Medicine
San Francisco, California

The United States has been at war for more than ten months. Therefore, let us assume the unpleasant task of critical examination and review of the medical school's place in the war effort.

At the time this Association met two years ago in Ann Arbor, Michigan, a national emergency had been declared and the Selective Service Act was to become effective in a few weeks. This Association already had appointed a Committee on Preparedness in 1939 to cooperate with the government authorities to help work out the problems of medical schools and the national defense program. The government, being aware of the importance of health, created the Health and Medical Committee and its several subcommittees to coordinate the health forces of this nation. It was only natural that many of us associated with medical schools and the training of physicians were appointed to membership on some of these advisory committees. At that time, we were concerned with preparedness, and I hasten to speak in the highest of terms of the splendid work done by the Committee on Preparedness of this Association, as well as the outstanding cooperation we have received from the Director of Selective Service and other government agencies. Ways and means were arranged for medical students to remain in school. Essential members of medical school faculties were recognized as such so that those occupying essential positions in a medical school were retained, for the most part, in their civilian duties. In September, 1941, the Procurement and Assignment Service for Physicians, Dentists and Veterinarians was created and after some changes has now become a part of the War Manpower Commission. Through this agency's action young physicians who are within the age for compulsory military duty, including a reduced number of residents and assistant residents in hospitals, have been retained because of the essential services rendered by them. One year ago we were debating whether or

*Address of the President of the Association of American Medical Colleges delivered at the Fifty-third Annual Meeting held in Louisville, Kentucky, October 26-28, 1942.

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not to go on an accelerated schedule and to increase student enrollment, if possible, in the medical schools. As you know, such a program was recommended by this Association long before the declaration of war. At the special meeting held in Chicago in February, 1942, we reviewed such problems as maintaining an adequate medical student body, a minimum but essential faculty, a twelve months internship and resident staffs in our teaching hospitals. The accelerated program was adopted at this special meeting. During the past year, virtually all of the medical schools re-arranged their schedules in such a way that teaching has continued practically on a year round basis, so that students may complete their required medical school work of four academic years in three calendar years. Many schools have provided the medical personnel for affiliated reserve hospital units for the Army or the Navy medical corps. Other faculty members voluntarily have entered active military duty or other government work. The Army and the Navy have created a special officers reserve for medical students so that they may be permitted to continue their training and after completion of their internship be available for military service.

I wish to remind you of the need for trained physicians in this country. You are familiar with the fact that the Army and Navy personnel rosters call for not less than six and one-half physicians per thousand men. It has been stated that there will be nearly $4\frac{1}{2}$ million men on active duty in the Army at the end of the present year, and that the goal established for 1943 is an army of $7\frac{1}{2}$ million. In addition, the Medical Corps of the Navy, the Marines, the Coast Guard and the U. S. Public Health Service must be staffed with well trained medical officers. Health services must be provided not only for our combatants but for those centers where our fighting forces are being trained and where war materials are being produced. Physicians must be assigned to local organizations for civilian defense. Medical men must participate in the administration of selective service. Local and State Departments of Public Health must be staffed. The ever increasing army of industrial workers and their dependents must have adequate medical care. New health problems are arising in those centers of industry that have tripled or quadrupled in population because of war work, while the number of physicians in these communities has decreased. The civilian population must be cared for. Here, again, war has brought additional problems, such as the preschool and school child who is left alone because the mother is working in a war plant. Provision of health services to the aged also is becoming increasingly difficult. In certain areas of the United States, at the present time, adequate medical and health services are not available for the civilian population. In my opinion, the shortage of physicians to meet these needs is America's first and most acute manpower problem.

What is the place of our medical schools in today's war effort? In the first place, medical schools should understand that all of their efforts are a part of the war program. All our students should be prepared for active and competent participation in this war, either through military or essential civilian service. All able bodied male students are destined for the armed forces. Already we have adopted an accelerated program and have increased the size of our classes so that we are producing a maximum number of doctors in as short a time as possible with our present facilities and without any lowering of present standards of education. However, the medical course should not be curtailed or shortened in any way, as it is absolutely necessary that our medical graduates be well qualified and capable. No reduction in the standard or quality of our teaching can be permitted if we are to continue to produce safe practitioners of medicine. Nevertheless, it is incumbent on medical schools to modify their curricula in order to stress such subjects as military medicine, tropical diseases, nutrition and first aid.

We must be assured of a sufficient number of premedical students who are properly trained and qualified for admission to medical school. Those we admit must be permitted to complete their training, including a twelve months period of internship. The self-supporting medical students must have financial help. We must have a minimum but an adequate number of experienced instructors to fill essential teaching positions. Adequate provision has not yet been made for the continued training of specialists. This war will be won by experts and technologists. Specialists in the field of medicine must come from the medical schools. The demands made on the medical schools for these specialists virtually has depleted the supply, therefore, provision must be made for replacements.

In addition to this obligation of supplying the nation with physicians, the medical schools and their staffs also have the opportunity and obligation for increased efforts in medical research. Newer methods of attack and defense are being used in this war, consequently medical science has new problems. These can be solved for the most part only by medical men. It is reasonable to conclude that the present demand for physicians by the military forces will exhaust in a few more months the supply of available civilian doctors in this country and that the future needs of the armed forces and the essential civilian activities must be met by the new graduates which the medical schools produce each year.

How can the medical schools function to meet all of these needs, and at the same time not abandon our high standard of medical training? It is expected that the age of compulsory military service will be lowered in the very near future from the age of 20 to 18 years. This will include the majority of students in American colleges and universities. In order to keep a selected group of students

in training for professional and scientific work directed toward winning this war, the Army and Navy have created enlisted reserve corps in the colleges and universities of America. The Army has placed a quota on the number of students who may join its enlisted reserve corps. These two military reserve corps give assurance for securing a sufficient number of premedical students to fill the entering classes of the medical schools each year. There is no indication at this time that the Medical Administrative Corps of the Army or the HVP classification of the Navy will be modified, therefore we can look forward to full student bodies in medical schools. Loans to medical students are being provided by the W. K. Kellogg Foundation, by the Federal Government, by university governing boards and by individuals.

The Procurement and Assignment Service, now a part of the War Manpower Commission, is reviewing the declarations of all medical schools concerning their essential faculties for teaching and research. This agency has recommended that minimum essential faculties be preserved, and has certified as not available for military duty physicians who occupy essential teaching positions. Instructors within the age of compulsory military service, who cannot be replaced by equally competent personnel not eligible for military duty, may be retained by this means. It is vital, however, that this deferment be made with a thorough knowledge of local requirements, facilities and personnel. Provision has not yet been made for retaining non-medical instructors. From available information it is evident that administrative officers of a few medical schools have not met fully their obligations to preserve an adequate faculty and maintain accepted standards of medical education.

It is true that the war has brought serious demands and many new problems to the medical schools. It is equally true that schools of medicine have been interfered with less and have received more cooperation and support from government and military agencies than other branches of education. It is also true that we have been confronted with a confusing barrage of advice, instructions, warnings and conflicting statements so that it has been difficult for some schools to initiate constructive plans. In certain instances this has interfered with the adequate functioning of medical schools. However, the unfavorable conditions, minor hardships and deficiencies experienced by a few medical schools should not be regarded as an accurate evaluation of the present status of medical education. Despite the shortage of teaching personnel, the accelerated program, and the assumption of additional duties in local communities, the majority of schools are functioning fairly well. A majority of the students are delighted with the continuous teaching schedule and most of the government agencies have endorsed it.

Student advisors and the administrators of colleges and universities that provide premedical training should cooperate closer with medical schools, particularly during this war emergency. It is essential that the Association of American Medical Colleges continue its cooperation with all agencies concerned with education, health, research and military service. This Association is expected and entitled to take leadership in all these matters because after fifty-two years of intensive study and labor it has accumulated a wealth of invaluable information which is not available anywhere else in the world. To date not enough use has been made of this material.

It is reasonable to suppose that some supreme governing board will be created in the very near future to mobilize and budget all manpower and material, both military and civilian, in order to win this war. When this change is made, I am confident that medical education will be supported. This is the greatest call in history for trained men in the United States. Men must be developed for leadership not only in the military field but in all of the professional and scientific fields for the present war and afterward. There is plenty of patriotism and good intentions, but, perhaps, we have not yet realized the gravity of the present emergency as it affects us. The accelerated program, the increased size of our student body, the loss of personnel and the increased load for essential research may not be enough to meet the needs for our country during the next few years. Ours is but an infinitesimal part of the horrible cost of war, and it is our duty to produce enough and to produce it on time. This is declared a war of annihilation and there are no rules except those of survival. The history of Pearl Harbor, Wake Island, Coral Sea, Midway and other battles emphasizes with tragic forcefulness the need for well trained physicians. It will be necessary for those of us at home also to maintain a strong fighting front. The scope of our job is clear, and although the performance of our job is not easy, and may be more difficult as war goes on, it is essential that we continue our splendid work, double our efforts and do our jobs superlatively well. All of the previous ideals of this nation do not begin to outweigh the single purpose of winning this war.

War and Its Needs So Far as Medicine is Concerned*

COLONEL LEONARD G. ROWNTREE, *Med.-Res.*

Chief, Medical Division, National Headquarters, Selective Service System
Washington, D. C.

Knowing General Hershey as well as I do, I think I can truthfully say that this is one of the organizations for which he has the highest regard and the friendliest of feelings. Just before leaving Washington, he asked me to tell you how much he has appreciated your wholehearted cooperation, and to give you his kindest regards and best wishes.

Personally, it is always a pleasure and a profitable occasion when I have the opportunity of meeting with you who are responsible for the conduct of medical education in this country. There is nothing that creates friendship and understanding more quickly and more effectively than struggling shoulder to shoulder for a common objective. You and we of Selective Service have stood shoulder to shoulder for two years, and I know you will agree with me when I say that we still remain friends. However, our common problem is becoming more difficult and more complex every day, and we must, in the future, as in the past, continue to meet it shoulder to shoulder.

At the time of your last meeting one year ago, this country was still at peace, and from a military point of view, primarily interested in the problems of national defense and preparedness. Selective Service was concerned with the procurement of men for the organization of a peacetime Army; men who were to serve one year in active training and then enter the Reserve Corps to be called on for active service any time within the following ten years, if and when needed.

Then, like a bolt from the blue, came Pearl Harbor, and the country was plunged precipitously into war, total war—total global war. The need for a vast military establishment, army, navy and air service, became an immediate and imperative one, not concerned primarily in defense, but capable of carrying war successfully to our enemies anywhere and at any time. This need calls for the supreme effort on the part of the Nation and on the part of every citizen and especially of every doctor.

This country now has but one objective—winning the war. In this connection, however, it must function along two lines:

1. The creation of a military machine capable of doing the job—an Army of 7,500,000 by the end of 1943. Secretary Knox has stated the strength of the Navy is now nearly 1,000,000 men and there were approximately 200,000 men in the Marine Corps. The regular Coast Guard now numbers about 110,000 men.
2. The creation of the "Sinews of War," arms, tanks, ships and planes, all in numbers sufficient to meet not only our own needs, but also the requirements of all our Allies.

*Presented before the Fifty-third Annual Meeting of the Association of American Medical Colleges held in Louisville, Kentucky, October 26-28, 1942.

Secretary Stimson gave this breakdown of the Army's 1943 needs to the House Committee:

Air forces.....	2,200,000
Organized ground units.....	3,300,000
Services of supply and related duties.....	2,000,000
Total	7,500,000

Simultaneously, we must carry on a dual function of winning the war and of serving as the "Arsenal of Democracy." This latter makes difficult the wisest allocation of manpower, which at present appears to be one of the most perplexing problems facing this Nation.

Our task is of Herculean proportions, one in which each and every citizen must contribute his utmost, be willing to give his all, and, if necessary, himself, to be used by the country in that capacity which best serves the national needs. We cannot afford to depend on anyone else for the winning of this war. During the last ten months we have learned that this is not going to be easy. We now know something of the striking force of the enemy, of his fighting power and his utter ruthlessness. We have already lost some initial battles, which, fortunately, served to teach us much about our own weaknesses and deficiencies. During the same time, however, we have had some taste of victory, especially in the air, at sea and in some of the battles of the South Pacific. To win, it will take our all. The greatest need of the Nation today is the development of more of the "will to win." From now until victory each and everyone of us must individually live, plan, work and fight for victory.

As doctors, we carry much more than the ordinary responsibility. Never in the history of America have we been in such demand. Much is expected of us, and in consequence we must deliver on our responsibilities. For medicine, as for the Nation at large, this has been a year of kaleidoscopic change; busy, hectic days, with constant striving and with never an idle thought or a dull moment. Life in Washington is very demanding. Selective Service Headquarters has become, to a large extent, a life spent on the telephone in a driving effort to get things done.

We are concerned here today mainly with two problems—that of the medical needs of war and how these needs are to be met.

The Nation, Medical Schools and Selective Service all recognize the need for more medical personnel and service. In this war, the medical profession must and will meet the crucial needs facing it on every front. The medical function can be divided roughly into four important categories:

1. Military medicine, which in time of war, takes precedence over all others.
2. Industrial medicine, including public health, which is of tremendous importance, now that we have become the "Arsenal of Democracy."
3. Research medicine, which should undergo expansion in all directions covering war needs.
4. Civil practice, which in these times becomes unduly heavy because of the depleted ranks of the profession.

As a corollary, medical education should be considered. While this, in one sense, is not a branch of medical practice, it is concerned with the development of medicine within the four categories. It is essential for the continuing inflow of doctors into medicine, and, therefore, merits primary consideration. What it really needs is a helping hand and protecting arm on the part of the Army, Navy, Selective Service and all health agencies.

DISTRIBUTION OF MEDICAL SERVICES IN THE FACE OF NATIONAL SHORTAGE OF PHYSICIANS

As a profession, we have a medical pool of 155,000 practitioners with an incoming stream in the past of only from 5300 to 5500 doctors. With this as a supply, the medical profession has been called on suddenly to face increasing demands and some relatively new functions on many different fronts. So important is the medical service in all these connections and so vast the job, the question arises how the profession can cover all the needs. Almost every conceivable plan has been considered and certain steps have been taken.

Our primary duty as a profession, however, is to meet the military requirements. Medicine must adequately serve our fighting forces. If, on the other hand, we are left on the home front, our services must be attuned to war.

THE PROCUREMENT AND ASSIGNMENT SERVICE

Because of conflicting interests, the Procurement and Assignment Service, consisting of leaders of the medical profession, has been set up for an equitable distribution. This agency was originally decentralized into nine corps areas. It is now decentralized on a state basis. It has helped materially in the procuring and in the intelligent assignment of medical service.

MEDICINE'S OFFERING

American medicine has much to offer. Let us first take stock of what is being done in order that each individual doctor, by seeing the panorama as a whole, may be able to determine better how and where he can fit best into the picture.

In passing, may I say that no nation under the sun has a medical profession with more to offer than we have. Fortunately, for this country, the American medical profession has been adequately organized for medical service on a peacetime basis, and the same organization is working smoothly, efficiently, constantly and unselfishly to direct our medical efforts into wartime channels.

Fortunately, too, this country is also reasonably well supplied with fully equipped hospitals, clinics and medical institutions of all kinds and sorts, so that the country faces war with a peacetime medical profession and with medical equipment second to none.

ARMY AND NAVY AND THEIR MEDICAL NEEDS

Fortunately, also, the Medical Corps of the Army and Navy are now, and always have been, splendidly organized and equipped and have maintained a substantial framework in time of peace and are capable of rapid expansion to meet the demands made on them in time of war. The Army Medical Corps ordinarily comprises 1,250 physicians; however, in World War No. 1, its personnel increased to 30,591 to meet the needs of an Army of 3,673,888 men. The Medical Corps of the Navy ordinarily carried a complement of 875 regular

officers, and is so constituted as to be capable of immediate expansion to meet any need. In both branches of these services, adequate provision has been made for peacetime needs and wartime expansion in all fields, including aviation medicine. Now is the critical time for such expansion; the call has been issued and the first duty of every qualified American doctor in time of war is to offer his services to the military forces.

At the present time, according to the press, our Army has already enrolled more than four million men. This Army demands physicians in proportion as laid down in the tables of organization. While much has appeared in the lay and public press in the way of criticism of the medical profession, few, making these comments, realize the many demands on the doctor. The Army needs doctors out of all numerical proportions. At the present time, this situation, while far from perfect is reasonably satisfactory. According to Colonel George Lull, in charge of Medical Personnel, the number of doctors commissioned now has attained 31,309 on October 5, requiring 36,350 on January 1, 1943. Quotas for all the states have been set up by Procurement and Assignment, and all states, with the exception of five, have made their quota or are in a fair way to do so by the end of the year.

Likewise, the Navy, for which the figures are not available, has had reasonable success in meeting its demands. The Army, however, is only in the making, and if doubled in size, it will require twice as many doctors as have been commissioned. This presents the greatest problem facing American medicine today, so far as the military need is concerned.

While much has been said for and against the doctor in his response to the war call, active recruiting was necessary, and during the last four months all doctors, especially those under 45 years of age, have been urged to seek commissions. As quotas have been reached in each state, recruitment has been diminished or abandoned in those states.

STUDENT DEFERMENT

Because of the need of doctors, steps have been taken to insure as large an inflow into the profession as possible. In the early days of Selective Service, the medical schools were tremendously concerned about their futures. College presidents and the deans of medical schools, were frantically seeking aid from Selective Service, the Army and the Navy. Since no adequate program had been evolved, Selective Service attempted to meet the situation.

In February, 1941, at the Congress on Medical Education and Licensure, Selective Service, in response to an invitation from that body, offered a plan. This involved, in the beginning, the deferment of third and fourth year medical students and first year interns on the certification of the individual registrants concerned by the proper university and medical authorities, provided the local boards agreed that the registrant was a "necessary man." The program included, in addition, an accelerated rate of teaching, and increased enrollment. Fortunately, these suggestions were considered favorable by the committee representing the deans in the Association of American Medical Colleges. With their help, a satisfactory program was planned and put into operation.

This action was followed almost immediately by the creation by the Navy of the Ensign Corps Reserve, which afforded protection of national medical needs to all medical students and interns accepting commissions as ensigns H.V.(P). This was followed shortly by a similar action by the Army in the creation of the Medical Administrative Corps. As a result of these actions, 22,000 students were given an opportunity to continue their medical training until such time as they were considered eligible for commission in the Medical Corps of the Army and the Navy. This system has been peculiarly effective, in that Dean Rappleye reports that of the 22,000 students processed only three decisions were open to criticism.

With Pearl Harbor and the augmented need, this protection has been expanded so that at the present time it includes individual deferment of premedical students who have been matriculated into an approved medical school.

PREMEDICAL DEFERMENT DIFFICULTIES

Some difficulties have arisen recently relative to the handling of some premedical students. Some confusion has arisen over Local Board Release No. 144 in relation to State Directors Release No. 12. Because of this, I am restating the Selective Service position as of the present:

The official statement from a proper authority of accredited schools of medicine, dentistry or veterinary medicine, an accredited hospital or institution that a registrant is

- (1) A bonafide matriculant,
- (2) A satisfactory student,
- (3) A first year intern

shall make the registrant eligible for consideration for occupational deferment, irrespective of whether or not a commission in the Army of the United States or the United States Naval Reserve has been granted or is pending.

The crucial question is not that a registrant has been commissioned in the armed forces or has a commission pending but is the registrant, a bonafide matriculant, of a recognized medical, dental or veterinary college, or a first year intern. Occasional additional conflict has arisen over the question of doubt as to the bonafide nature of the matriculant.

FIRST YEAR INTERNSHIP

After a conference one year or so ago, of all vitally concerned, it was determined that a one year internship was essential for the proper training of medical men for service with the armed forces. Consequently, Selective Service agreed to one year's training. Recently, because of the difficulties attending the handling of successive groups of graduates at nine month intervals, a nine months internship has been suggested by some. Selective Service is still willing to protect the one year period, which apparently is what is desired by the Surgeons General of the Army and the Navy; this internship to be of a rotating character.

We are officially informed that interns between their ninth and twelfth months of training, who are not needed in their own locality, will find ample opportunity for the completion of the twelve month period in New York City hospitals.

The Surgeon General of the Army, Major General James C. Magee, desires that the internship of one year be completed, if possible, within the one year subsequent to graduation, and does not look with any favor on the extension of that period. The War Department does not feel that a registrant should be deferred for a period of eighteen months, as originally indicated, to enable him to complete a twelve months internship, and additional time will, therefore, be no longer allowed. Admiral Ross T. McIntire, the Surgeon General of the Navy, also favors a one year internship, but, if it becomes necessary to reduce it to nine months he says care should be exercised to see that obstetrics and gynecology are covered.

MARITAL STATE OF STUDENTS

Married medical students, like married doctors, are eligible for consideration for deferment by Selective Service, if they maintain bonafide home relationship. This provides these men with a choice between military and civil practice, and attention is called to this for two reasons:

1. That there will be a potential supply of men for hospital residencies.
2. That this may afford the opportunity for a registrant to evade military service, and therefore, this should be considered carefully by hospital authorities before appointing residents to the hospital staff. It should be remembered that these doctors are also subject to classification by the Procurement and Assignment Service.

CRITICAL OCCUPATIONS AND TEACHERS OF MEDICINE

Selective Service Occupational Bulletin No. 23 states that professors and instructors who are engaged in full-time instruction and research in medicine and surgery may be considered for occupational deferment to enable them to continue their teaching function and thereby contribute to the war effort.

SUBSTANDARD SCHOOLS

In connection with these schools, Selective Service is faced with the determination as to whether or not their students are necessary men. If it is determined that they are not, it would result, in all probability, in the disintegration of medical schools in this category. Faced with a national shortage of physicians, Selective Service felt that there would likely be an improvement in the standing of one or two such schools and that eventually if they were approved, that their students and faculty members would be accorded every consideration granted to the approved schools of medicine. Two schools have been under study for consideration, namely: Middlesex Medical College and the Chicago Medical College. However, no final decision has been reached yet because of the absence of final reports on their standing. At present we believe that individual students and graduates of substandard medical schools may be considered for deferment by Selective Service and for commissions in the Army at the discretion of the Office of the Surgeon General. Some graduates of substandard medical schools have already received commissions and are in the service of our country.

INFORMING LOCAL BOARDS AS TO STATUS OF MEDICAL STUDENTS

Local Boards should be kept informed as to the scholastic standing of each and every premedical student, medical student, and intern; because if they are

not making satisfactory progress the local board should be afforded an opportunity to reclassify the registrant.

SOME SUGGESTIONS TO MEDICAL SCHOOLS FROM SELECTIVE SERVICE

Since difficulties in deferment relate almost exclusively to premedical students and doctors who have completed a one year internship, particular consideration should be given to these groups. The local boards must be furnished with full information by the medical authorities relative to premedical students, to enable the boards to arrive at a fair decision. It must be remembered, however, that local boards have the records of every man, as well as access to pertinent information concerning him; hence the medical authorities should be supplied with full information of the premedical student prior to his admission to the medical school. Some instances have arisen in which there is reason to believe that evasion of military service was believed to be the compelling factor in the registrant's decision to study medicine. Certain cases have been brought to the attention of National Headquarters of Selective Service. It cannot be too strongly emphasized that careful attention should be paid to all records and correspondence to determine if evasion of military service may be discovered. Otherwise, medical school authorities may be unwittingly employed by such individuals to assist an attempt at evasion. There is a need, therefore, on your part for a most careful scrutiny of men seeking premedical status to determine not only whether they will be good doctors, but whether or not they exhibit good faith. The hysterical enrollment complex with the eleventh hour matriculant may give a clue to the index of caution. If some years have intervened between eligibility for admission and actual application, the reasons for delay in applying should be scrutinized carefully. When a registrant applies by telegraphic communication, or after a speedy airplane journey, the medical school should determine whether or not the applicant's induction into the Armed Forces is imminent. If there is any doubt in the minds of the medical school authorities, they should consult with the State Director of Selective Service, who may be able to obtain and furnish information of fundamental importance that will assist the dean.

The Association of American Medical Colleges must have already considered the necessity for different standards of admission to medical schools during this wartime crisis. In the establishment of rules and regulations, this phase introduces a problem concerning deferment and renders difficult consistency in decisions.

There has been some difficulty in dealing with doctors, who have commissions pending. It would seem desirable, therefore, to facilitate the processing of commissions, and it should be kept in mind that the longer the interval the more embarrassment may arise.

NEED FOR SPECIAL INSTRUCTION IN MILITARY MEDICINE

At the present time, with this country engaged in total global war, the needs of the military forces become the first consideration of the medical profession. This has, I know, received long and careful consideration by your esteemed association. However, Selective Service suggests greater emphasis in the following matters:

Inasmuch as the health and efficiency of the Army is dependent upon the wise selection of its personnel, attention to the determination of physical fitness should be more carefully considered in the teaching program. Selective Service has the splendid cooperation of more than 30,000 physicians in the physical examination of registrants. The Army and the Navy function daily with groups of physicians throughout the Nation engaged in determining the physical fitness of men for military service. Selection has not been as perfect as it might have been because of the limited experience of many examiners in such examinations, as well as the lack of more detailed instructions on this phase of medical practice. Many difficulties have been encountered in connection with the cardiovascular, dental, and nervous and mental diseases. More instruction may be needed in our medical schools to more adequately equip doctors in these fields, and because of the diversified assignments that a medical officer may have in this present conflict. The medical curriculum should include more instruction concerning medical problems of tropical and arctic environments. It is appreciated that this has been called to your attention by the Surgeons General of the Army and Navy.

CONSERVATION AND CONSOLIDATION OF MEDICAL EFFORT

One of the lessons that medicine has learned during the war thus far is the consolidation of effort. As in other medical endeavors, Selective Service has been confronted with the increasing shortage of physicians. In the examination of Selective Service registrants in the City of Chicago, Selective Service formerly required 2,000 physicians, but faced with a shortage of physicians there was developed what might be termed "mass physical examinations" which were found to be very satisfactory in covering the needs. In these group examinations the number of physicians has been reduced so that now but 165 are conducting these examinations in Chicago.

Thus the medical examination of Selective Service is changing from that by the individual doctor in his office, to group team work, which has conserved the time of the individual physician without sacrificing the quality of the examination.

A suggestion that has been given to us is certainly worthy of thought and consideration and I am sure that it is of interest to you. In some large urban centers endowed with several medical schools and hospitals engaged in the teaching of medicine, there exists an opportunity for conservation of medical manpower through reorganization. This reorganization concerns the pooling of students, faculty and facilities, in such a way as to obtain the best results through the sharing of teaching responsibilities.

A question that may be raised and which is paramount, concerns the present method for selecting medical students. Is this method the best, or shall we have to reconsider according to the problems rising on the horizon which are the induction of men of 18 and 19 years of age? Any program, of course, must of necessity require a reconsideration of the factors employed in the selection of students for the medical schools. Irrespective of whether or not the selection will be under the jurisdiction of the Army and Navy, through some division of the enlisted corps, or continues to be a responsibility of yours, the question as to the

best selection method must be anticipated. Should there be a national pool of all applicants for the study of medicine? Should a national board for the selection of medical schools be created? These are pertinent questions and should receive serious thought and consideration.

In the utilization of all available medical personnel, has sufficient cognizance been taken to date, of our women physicians? The Army and Navy have only a limited place, if any, for this group of doctors. The very nature of medical service in these armed forces makes it mandatory that only male physicians be employed. However, there never was a time in the history of our country when medical service for the home front was more urgently needed, and therefore, we ask the question: "Are women doctors being used to the best advantage by the civilian authorities?"

Selective Service is not prepared at this time to announce any change in policy in matters described in this paper. Decisions relative to the additional deferments for the 18-19 year group may be determined by others. It is not known just what part Selective Service will be called upon in this decision. However, Selective Service is vitally interested, and considerable study is being given to the matter. Have you evolved and presented a plan for consideration?

I am confident that each of you know of General Hershey's interest and his rare insight into your needs and that he has cooperated with you in the many problems with which your Association is concerned. I know that I express his views when I say that you may be assured of his continued interest and support, though, it must be admitted that he is somewhat uncertain as to the lengths to which the deferment of premedical students should be extended.

Doctor Rappleye tells us that the prospects in medical education for the next three years are essentially as follows:

"In years gone by, 5,300 annually represented the output of medical students. With the new accelerated program, in which Selective Service played a definite role, there will be 9,400 graduated in 1943. In the following eighteen months, there will be 10,725; an increase over normal."

Under the present regulations of Selective Service, it appears, therefore, that the medical schools are adequately covered up to the year 1948. Then it now seems pertinent for me to ask: have you taken stock of the future of the medical profession in the event of continued war, or a state of peace existing after 1948?

In closing this enjoyable discussion, I desire to pay tribute to the committee which has worked with us continuously throughout the past year and a half. It has performed a splendid function and should be continued. Doctor Rappleye, as its chairman, has worked in closest harmony with us and has earned a warm place in the hearts of all with whom he has come in contact at National Headquarters. My final suggestion is that you leave with the committee now in charge, your future problems involving Selective Service action, as well as those dealing with the Army and Navy, and feel confident that the solution will be one which will best meet the needs of our nation.

The Procurement and Assignment Service and Medical Education

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The continuation of medical education during the war has been one of the major concerns of the Directing Board of the Procurement and Assignment Service, ever since its appointment approximately one year ago. In fact, at its organization meeting this Board appointed an advisory Committee on Medical Education. The personnel of this Committee, with Dr. C. Sidney Burwell as chairman, was identical with that of the Subcommittee on Medical Education of the Health and Medical Committee, which, in the spring of 1941, made the first formal recommendation concerning the creation of an agency such as the Procurement and Assignment Service to be responsible for the distribution of medical personnel in case of war.

Realizing that it is impossible to continue the education of physicians without students and faculty, the Procurement and Assignment Service has authorized medical schools to prepare lists of their essential teachers and has cooperated with other agencies in arranging for deferment of military service for medical students. The Army and the Navy agreed not to grant commissions to physicians considered essential by the Procurement and Assignment Service for the maintenance of necessary civilian medical services, and the National Headquarters of Selective Service advised all local boards to secure the advice of the State Committees of the Procurement and Assignment Service whenever they were considering the classification of physicians under the Selective Training and Service Act.

An initial list of "essential" teachers in medical schools was requested by the Procurement and Assignment Service in January, and a second list in July, 1942. The instructions in regard to the preparation of these lists stated that every member of the teaching staff should be classified as essential or available; that in rating faculty members it is important to keep in mind the urgency of the need for young, physically fit physicians; that men under 45 years of age should not be classified as essential unless a clear case can be made for the need of their services and unless a satisfactory replacement cannot be effected; that in making replacements, due consideration should be given to the possibilities of using men over 45, women and nonmedical personnel; and that "every school should consider possible readjustments in its curriculum with a view to (a) elimination of courses that

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Read at the Fifty-third Annual Meeting of the Association of American Medical Colleges held in Louisville, Kentucky, October 26-28, 1942.

can be given up during the emergency, (b) entering into joint teaching schedules with neighboring schools, and (c) readjustment of the curriculum so as to release as many teachers as possible."

The reason for these instructions was that the Procurement and Assignment Service is charged with several responsibilities, the foremost of which is to cooperate with the Army and the Navy in securing the recruitment of an adequate number of medical officers to meet their need. At the same time, the Procurement and Assignment Service has been directed to give due consideration to the maintenance of essential civilian medical services. Obviously, there is a conflict between these two responsibilities. It is impossible to withdraw from civilian life the large number of physicians needed by the armed forces without drastic reductions in all types of civilian medical services. Applied to the medical schools this necessitated a careful appraisal of their situations in order that essential teaching functions might be continued without withholding more than a minimum number of physicians who would be qualified for service with the armed forces.

These lists of essential medical teachers submitted by the deans were transmitted to the respective Corps Area and State Committees of the Procurement and Assignment Service. Most schools listed very few men of military age as essential and almost without exception these lists have been accepted by State Committees without question. On the other hand, a few Procurement and Assignment Service committees, as well as some representatives of the Army and the Navy, have felt that the number of faculty members listed as essential by certain schools was unjustifiably high. In regard to this the attitude of the Directing Board of the Procurement and Assignment Service has been that, having authorized these lists, it has a responsibility to appraise them, supporting those that seem reasonable and investigating those that appear excessive.

In approaching this problem, the difficulties in applying the results of any general averages to the situations in individual schools was fully appreciated. The faculties of a few schools consist largely of men of military age. Some schools are situated in large cities where they can call on part-time members of the clinical faculty for increased services, while other schools are located in small communities where no such possibilities exist. Most schools are responsible for the teaching of only medical or medical and nursing students, but a few provide instruction in the medical sciences also for students in other colleges such as dentistry, pharmacy, medical technology, etc. The faculties of some schools provide medical service in a number of affiliated hospitals and graduate training of their resident staffs, and some schools are conducting a great deal of war research and offering specialized courses for medical officers, while others have few, if any, such responsibilities.

With these objectives and reservations in mind, the Committee on Medical Education and the Committee on the Allocation of Medical Personnel, with the invaluable technical assistance of the United States Public Health Service, made extensive analyses of the lists of faculty members submitted by the medical schools last July. Some of the results of these analyses I am sure will be of interest to you.

MEMBERS OF MEDICAL SCHOOL FACULTIES IN ARMY OR NAVY SERVICES¹

As of July 1, 1942, 15,972 physicians, or 9 per cent of the total in the continental United States, were full-time or part-time members of medical school faculties. This is exclusive of hospital interns and residents. Of these, 3,152, or approximately 20 per cent, were in military service, and another 4,073, 25 per cent, were of military age and listed as available. This makes a total of 45 per cent of all physicians on faculties of medical schools either in service or listed as available for service.

TABLE 1.—PHYSICIANS ON MEDICAL SCHOOL FACULTIES AND IN RELATION TO TOTAL PHYSICIANS IN THE UNITED STATES
July 1, 1942

Age	Continental United States				Medical Schools			
	Total	On active duty		Total†	On active duty		Those remaining listed	
		Number	Percent		Number	Percent	Available	Essential
Total	176,091†	24,943	14.2	15,972	3,152	19.7	6,620	6,300
Under 38	55,138	20,955	38.0	6,226	2,071	33.3	2,895	1,850
38 to 44	29,091	2,439	8.4	3,939	744	18.9	1,768	1,427
45 and over	91,822	1,549	1.7	5,807	337	5.8	2,447	3,023

†Includes 34 physicians, age unknown.

‡Including those on leave of absence for war service. Totals for two schools have been estimated.

NOTE: This table includes only physicians. Table 2 includes also other professional staff members.

As shown in table 1, on July 1, 1942, 19.7 per cent of the physicians on medical school faculties were in Army or Navy service, as compared with 14.2 per cent of all physicians in the United States. By age groups, the corresponding percentages "in service" are: Of physicians under 38 years of age, for the medical schools, 33 per cent, for the country as a whole, 38 per cent; of physicians 38 to 44 years of age, for medical schools 18.9 per cent, for the country as a whole, 8.4 per cent; of physicians 45 years of age and over, for medical schools, 5.8 per cent, for the country as a whole, 1.7 per cent. The relative larger proportion of medical school faculty members in service in the older age groups is doubtless due, in part, to the provision by medical schools of the professional staffs for special Army and Navy hospitals and in part to the calls which have been made on medical school faculty members to accept special assignments with the medical departments of the Army and the Navy.

Table 2 shows for total faculty (physicians and others) the numbers of physicians and the percentage of total faculty who on July 1st were in service from the various medical schools of the country. The average number of faculty members in service per school was 48, with a maximum of 153 and, except for Howard, Meharry and the Woman's Medical College, a minimum of 7;² expressed as percentages, this amounts to an average of 17 per cent of the faculty members per school on active duty, with a maximum of 37 per cent and a minimum of 8 per cent.

1. Certain of these figures are subject to slight revision on account of incomplete reporting.

2. Possibly an incomplete report.

TABLE 2.—MEDICAL SCHOOL FACULTIES†
FACULTY MEMBERS AVAILABLE FOR, AND ON, ACTIVE MILITARY DUTY
July 1, 1942

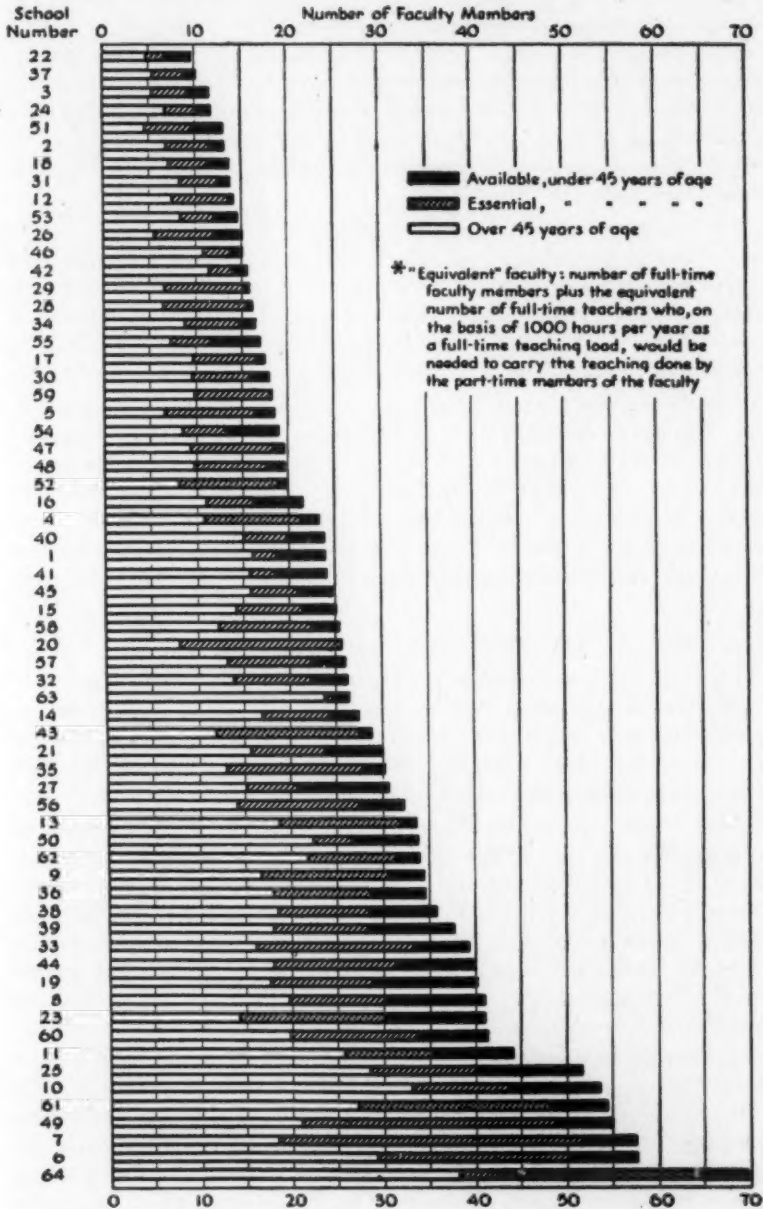
School*	Grand Total	Active duty		Active duty & available under 45	Active duty & available under 45 as percent of total
		Number	Percent of Total		
1	170	37	22	92	54
2	117	22	19	55	45
3	217	10	5	86	40
4	212	25	13	68	32
5	222	53	24	80	35
6	417	77	18	159	38
7	177	22	12	38	21
8	333	32	10	158	47
9	201	25	12	58	29
10	702	115	16	286	41
11	362	73	20	159	44
12	133	15	14	32	24
13	125	25	22	35	29
14	187	43	22	87	44
15	232	16	7	81	35
16	246	34	14	121	49
17	90	7	8	28	31
18	261	51	20	103	39
19	650	153	23	313	52
20	103	4	4	4	4
21	611	64	10	243	40
22	209	42	20	98	47
23	154	27	18	61	40
24	280	52	19	104	37
25	422	85	20	177	42
26	200	39	20	83	42
27	282	21	7	129	46
28	136	24	18	54	40
29	124	44	35	14	47
30	264	52	20	101	38
31	174	13	7	43	25
32	404	121	30	196	41
33	317	51	16	109	34
34	59	2	3	9	15
35	235	57	24	74	32
36	405	65	16	169	42
37	123	14	11	26	21
38	390	69	18	181	46
39	424	77	18	181	43
40	198	39	20	93	47
41	527	137	26	239	46
42	179	46	26	68	38
43	273	102	37	123	45
44	485	118	24	224	46
45	343	79	23	134	39
46	297	64	22	116	39
47	85	13	15	23	27
48	308	75	25	131	43
49	280	61	22	109	39
50	220	55	25	100	45
51	185	15	9	68	37
52	109	13	12	22	20
53	204	29	14	87	43
54	386	57	15	208	54
55	224	61	27	115	51
56	123	21	16	47	37
57	103	14	14	43	42
58	220	54	25	98	45
59	61	9	15	12	20
60	396	84	21	170	43
61	361	68	19	125	35
62	129	20	16	31	24
63	121	10	8	22	18
64	330	70	18	135	35
Total	16,518†	3,060	—	6,659	—
Mean	253	48	17	104	37
Median	221	44	18	96	40

†Exclusive of residents.

‡This total does not equal the total of Table 1 because that table includes estimated figures for two schools from which reports had not been received, and because table 1 includes only physicians, not other professional faculty.

*In this table and in Charts 1, 2 and 3 medical schools are identified only by numbers, but identifying numbers of their schools will be provided to the deans upon request by the authors or by Dr. Fred C. Zapffe, Secretary of this association.

CHART 1.—EQUIVALENT* FACULTY MEMBERS OF ACCREDITED MEDICAL SCHOOLS
PER 100 STUDENTS (JULY 1, 1942)



FULL-TIME FACULTY MEMBERS IN MEDICAL SCHOOLS

Since the number of faculty members that a medical school might release for service during the war emergency is related to the initial adequacy of the teaching staff, a comparative tabulation was made of the number of teachers on the faculties of the several medical schools. For purposes of comparison, the service rendered by part-time faculty members was computed in terms of full-time equivalents, using 1,000 hours a year, including formal class exercises, laboratory and clinic and clerkship teaching, as a full-time teaching load. Obviously, this figure has little significance except as a common denominator for making comparisons between the schools.

The equivalent full-time faculty members of medical schools range from 33 to 238, with an average of 91 per school. As shown in Chart 1 the range per 100 students is from 10 to 70. The schools with the larger faculties tend to be schools with large student bodies and with multiple hospital affiliations and responsibilities. The age distribution of medical school faculties, as indicated by the proportion under and the proportion over 45 years of age, also varies greatly.

This chart shows also the equivalent number of faculty members under 45 years of age which each school declared available and number declared "essential." As would be expected schools with the largest faculties have listed the greater number of men as available. In spite of this, 16 schools have listed more faculty members of military age as essential than the entire faculties, in full-time equivalents, of any of the 10 schools with smallest faculties. Obviously, many of the schools at the top of this table should add to, rather than further deplete, their faculties.

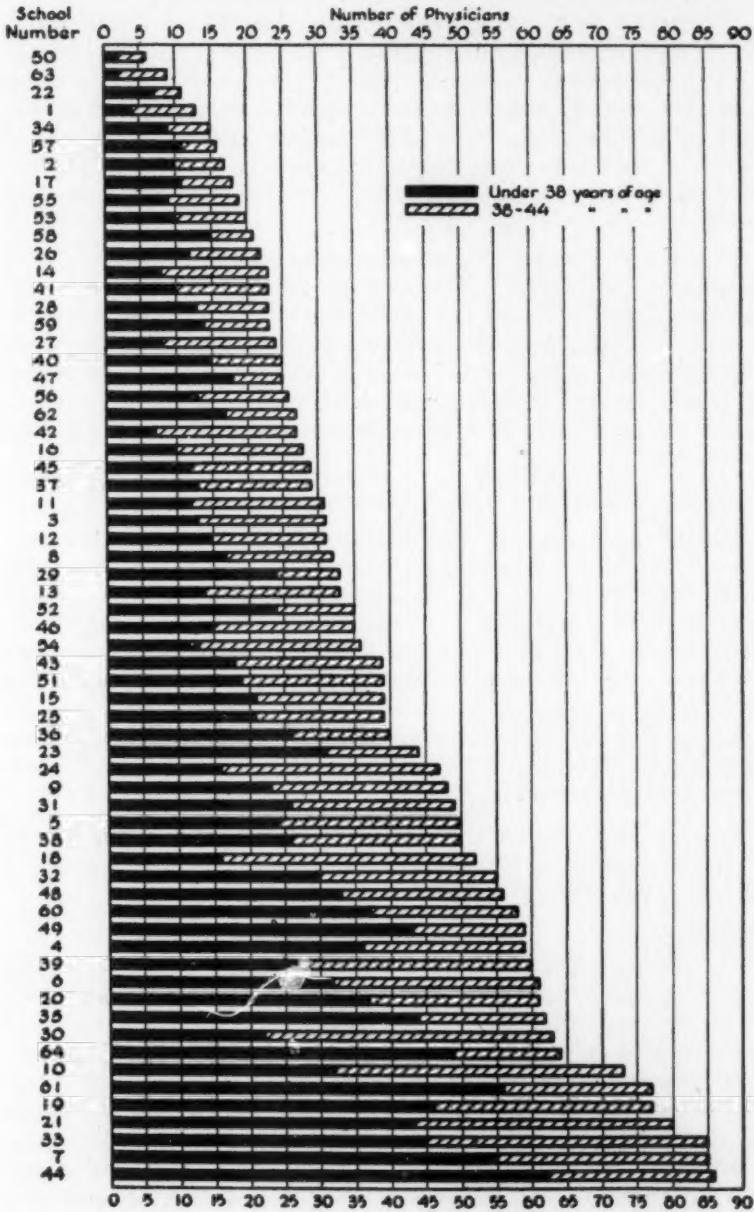
PHYSICIANS OF MILITARY AGE LISTED AS ESSENTIAL

Under the Selective Service Law all men under 45 years of age are subject to military service. However, both the Army and Navy are particularly anxious for physicians under 38 years of age. In view of this, the deans were requested not to list as essential any more physically fit physicians in these age groups than are absolutely necessary for the proper functioning of the school.

Chart 2 shows the number of presumably physically fit physicians under 38, and from 38 to 45 years of age, who are listed as essential teachers. The 10 schools at the bottom of this list report approximately four times as many "physically fit" physicians under 38 years of age as essential teachers as do the 10 schools at the top of the list. In fact, 8 schools in the former group list 40 or more such young physicians as essential teachers. From this it would appear that the medical schools probably did not follow a uniform policy in passing upon the availability of "physically qualified" male physicians.

Another notable difference in these lists is the number of physicians of military age listed as essential on the basis of their devoting a relatively small proportion of time to teaching. This is apparent from Chart 3, which shows the number of physically fit men under 38 listed as essential on the basis of less than half-time and less than one-fourth time devoted to teaching. On the basis of less than half-time devoted to teaching, 4 schools do not list any physically fit men under

CHART 2.—PHYSICIANS OF MILITARY AGE LISTED AS ESSENTIAL TEACHERS
(JULY 1, 1942) PRESUMABLY PHYSICALLY FIT FOR MILITARY SERVICE



38 as essential teachers; and 28 schools list less than 5 such men as essential. On the other hand 6 schools list 20 or more physicians in this group as essential.

Furthermore, 5 schools list 10 or more—one school, 19—physicians under 38 years of age as essential teachers even though they devote an average of less than four hours per week to teaching. A total of 41 presumably physically fit men under 38 who give one hour per week or less and 102 who give 2 hours per week or less to teaching are marked essential. It is possible that these may be justifiable cases, but it is difficult to defend the holding of young, physically fit physicians out of military service on the basis of an hour or two, or even three or four hours per week devoted to teaching.

As a future policy regarding part-time teachers, the Directing Board of the Procurement and Assignment Service, on the recommendation of its Medical Education Committee, voted that physicians who are of military age and physically fit should not be designated as essential teachers unless they devote at least one-fourth of their time to teaching. Exceptions to this should be made only under unusual circumstances, and when made should be adequately explained. Failure to do this will undermine confidence in these lists of essential teachers.

APPRAISALS OF INDIVIDUAL MEDICAL SCHOOL LISTS

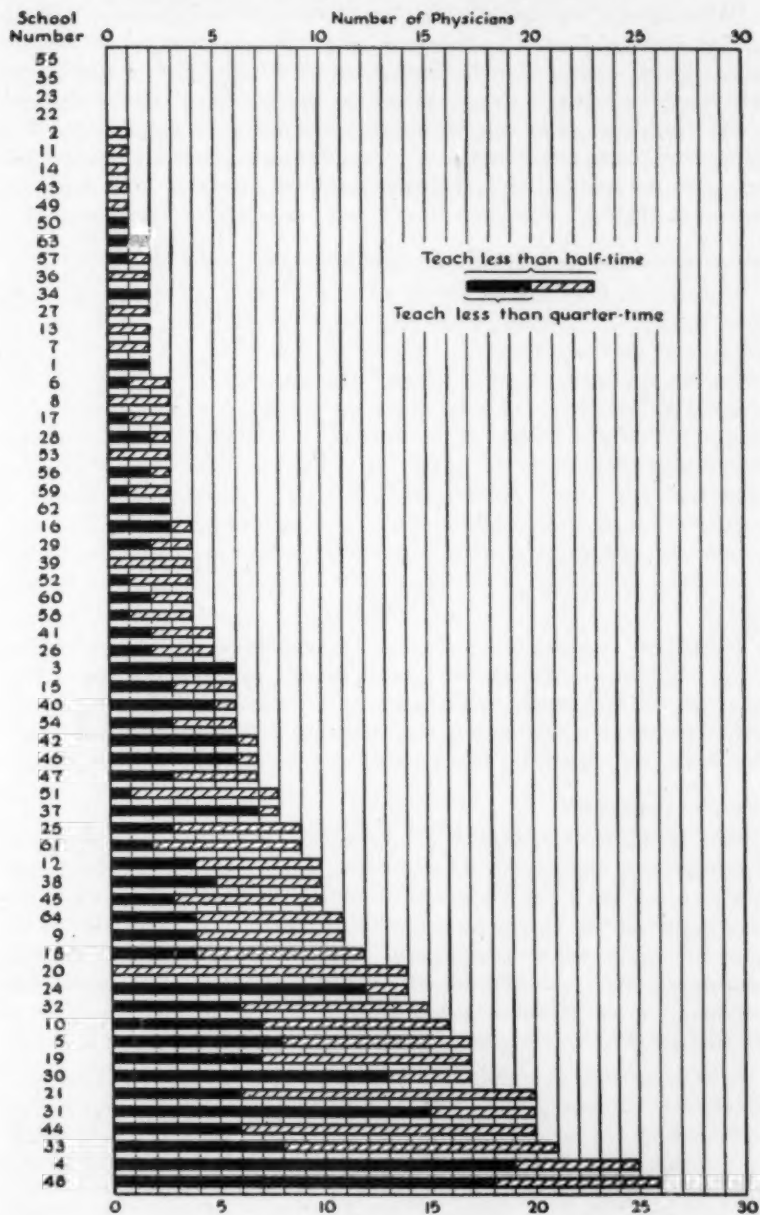
In addition to statistical analyses, the appraisal of medical school lists included reviews by the Medical Education Committee of the complete lists submitted by schools. On the basis of these reviews, a letter was written to each dean concerning the list which he had submitted. Most of these letters, copies of which were sent to the State and Corps Area Committees concerned, represent endorsements of the lists. A few letters suggested further review of the lists, and a few asked for additional information. Several asked whether the remaining staff was sufficient to carry the teaching load, particularly under the accelerated program. We hope that this procedure will give to medical schools the support which some of them seem to need with State and Corps Area Committees.

Periodic revisions of these lists, including additions and deductions, will obviously be necessary; but as a dean who has rather a large list to prepare, I hope that future revisions may be made as simple as possible.

APPEAL PROCEDURE

The Procurement and Assignment Service places with its state committees the primary responsibilities for deciding what physicians are essential for the conduct of civilian medical services and institutions. For this reason, the lists of essential teachers in medical schools are filed with the chairmen of the state Procurement and Assignment Service committees. If any of these committees questions the dean's statement that certain teachers are essential, efforts should be made to compromise the difference of opinion by means of a conference. If this proves unsatisfactory to the dean, he may appeal to the Corps Area committee of the Procurement and Assignment Service which contains a representative of medical education. If he is still dissatisfied with the decision of the Corps Area

CHART 3.—PHYSICIANS UNDER 35 YEARS OF AGE LISTED AS ESSENTIAL TEACHERS
WITH LESS THAN HALF-TIME DEVOTED TO TEACHING (JULY 1, 1942)
PRESUMABLY PHYSICALLY FIT FOR MILITARY SERVICE



Committee and feels that circumstances justify it, he may appeal to the central office of the Procurement and Assignment Service in Washington.

When essential members of medical faculties are to be classified by Selective Service, recommendations for deferment should be presented to the Selective Service Boards concerned, and if the individual is a physician, a copy of this letter should be sent to the state chairman of the Procurement and Assignment Service committee. If essential faculty members receive letters from the Procurement and Assignment Service or Army Recruiting Boards requesting that they apply for commissions, such letters should be considered as in error and referred to the State Procurement and Assignment Service committees.

APPLICATIONS FOR COMMISSIONS BY ESSENTIAL TEACHERS

Probably the most serious problem which every dean has encountered in his efforts to maintain an effective teaching faculty is the feeling on the part of younger men that they should apply for commissions in the Army or Navy even though they are listed as essential teachers. It is difficult to tell a young man that he should not join the armed forces of our country in time of war. Yet, it is our responsibility to do just this in the cases of those individuals who are truly essential medical teachers. In support of this position the Secretary of War, Henry L. Stimson, stated recently that "the army is greatly in need of men of specialized training, particularly in physics, chemistry, and medicine. . . . I now re-emphasize the fact that students and teachers in these fields are doing the job their country wants them to do and are performing their full duty in the war effort."³

It has been suggested that deans write to members of their faculties listed as essential teachers, or at least to those of military age, advising them of their status with the Procurement and Assignment Service and of their responsibilities incident thereto. If necessary, in special situations, the Procurement and Assignment Service will support the dean's statement in this regard.

MEDICAL STUDENTS

Since all male medical students in good standing are eligible for commissions which will keep them on an inactive status until they have completed their medical courses and a year of internship, we need have no concern about this group except for the 16 per cent who Dr. Rappleye reports had not yet on September 15th applied for commissions. These few should be advised to secure commissions as soon as possible in order that their services may be immediately available to the armed forces upon graduation and to avoid the possibility of their being inducted by Selective Service.

As to the premedical students, the situation is not so satisfactory. Those who have been accepted for admission with the next entering medical class are eligible for the commissions referred to above. In view of this, medical schools should plan to accept a new class just as soon as the preceding class has been admitted.

³ Emergency Supplement No. 3, Bulletin of Higher Education and National Defense, American Council on Education, September 18, 1942.

By prompt action in this regard and by waiving certain entrance requirements for superior students, when necessary, it is possible so long as the draft age remains at 20 to be reasonably certain of acceptable freshman classes.

However, when the draft age is lowered to 18 years, the situation will be quite different. Some plan will then have to be agreed upon to assure an adequate number of qualified premedical students. The medical departments of the Army and the Navy, the National Headquarters of Selective Service and the War Manpower Commission are all cognizant of this situation and I feel certain that some satisfactory plan will be evolved to meet it by the time that the draft age is lowered.

Of another thing, however, I feel equally certain. That is that during the war emergency we cannot expect that students will be allowed more than two years of college work preparatory to medicine. We all deplore the sacrifice in educational standards which this involves; but the immediate needs of the war must take precedence over all other considerations. This is affecting higher education in many ways that are more serious than the curtailment of premedical training to two years. Anticipating this we should advise premedical students to so plan their programs that they will complete the specific science courses required for medicine in the shortest possible time.

INTERNS

The policy of the medical departments of the Army and the Navy is that for the duration of the war the length of the internship shall be limited to one year. Furthermore, medical graduates who hold commissions cannot expect more than 12 months after graduation until being called to active duty. This makes it essential that hospitals accept interns immediately on graduation, which under the accelerated curriculum means at nine months intervals. This involves some rather difficult adjustments of intern services and schedules but it can and must be done.

Another problem relative to internships which has been brought to the attention of the Procurement and Assignment Service is the shortage or complete lack of interns in many hospitals which have long had the services of interns. This is due largely to the fact that many of the larger hospitals are accepting more interns than usual to compensate for the loss of their second year interns and a considerable number of their residents. In order to maintain adequate medical services in the hospitals which are now unable to secure interns it was suggested that for the duration of the war the Procurement and Assignment Service assign interns to hospitals on the basis of their needs. The action of the Procurement and Assignment Service on this suggestion was that "(1) since the primary purpose of the internship is educational, no action should be considered which would result in the selection or assignment of interns on any other basis; (2) the appropriate accrediting agencies have a definite responsibility to appraise the quality of the internship in these hospitals which are receiving increasing numbers of interns and to investigate the efforts being made by certain hospitals to attract

interns by offering increasing stipends to them; and (3) the provision of professional services in hospitals unable to secure interns and residents is part of the problem of providing adequate community medical service.

HOSPITAL RESIDENTS AND FELLOWS

Although thoroughly appreciative of the value of hospital residencies and fellowships both for graduate training and for the care of hospital patients, the Procurement and Assignment Service feels that for the duration of the war the number of hospital residencies must be reduced to the absolute minimum necessary for the care of patients and the teaching of medical students—and, although not specifically stated, it was understood that this minimum should be less than one-half of the normal number of residents; that these essential positions should be filled so far as possible by women or by men not physically qualified for military service; and that no physician should be listed as an essential resident for more than two years beyond the internship.

The problem of securing residents to fill even essential positions after the current year is causing concern among many deans and hospital superintendents because of the fact that practically all interns and medical students now hold commissions in the Army or the Navy. Even though the number of residencies is reduced to a minimum and as many of these positions as possible are filled by physicians not eligible for military service, the hospitals will doubtless need a limited number of the interns who hold commissions in order to provide adequate care for their patients. This problem has been presented to the Surgeon General of the Navy and to the Surgeon General of the Army and both have agreed to cooperate with the Procurement and Assignment Service and the hospitals of the country in meeting this situation.

MEDICAL RESEARCH

Much medical research is now concentrated upon problems of the war, and is either supported or sponsored by the Office of Scientific Research Development. Such investigations should be prosecuted as vigorously as possible. Other medical research should be continued if possible, but medical teaching, war service and war-related research must be given preference; all of which means that most peacetime medical research must be added to the casualty list of the war.

SUMMARY

The Directing Board of the Procurement and Assignment Service is deeply concerned with the maintenance of an accelerated and continuing flow of adequately trained young physicians into the medical profession during the war emergency. To accomplish this the medical schools must have effective teaching staffs and an uninterrupted supply of qualified students. The Procurement and Assignment Service is attempting to cooperate with medical schools in meeting these conditions.

At the same time, adjustments of teaching programs and teaching assignments must be made so as to release as many young physicians as possible for service with the armed forces.

Analyses of the reports on medical school faculties recently submitted by the deans show that as a group medical schools have drastically reduced their teaching staffs to provide physicians for the armed forces. In fact, the faculties of a considerable number of schools have been so seriously depleted that it seems doubtful that they will be able to conduct an effective teaching program. This is particularly true in relation to the increased teaching load occasioned by larger classes and the accelerated program. Such schools should add to rather than further reduce their teaching staffs. On the other hand, a few schools have listed considerable numbers of physically fit young men of military age as "essential" teachers, some of whom devote a relatively small proportion of their time to teaching. Such schools should attempt to revise their teaching assignments so as to release as many as possible of these young men either for war service or for medical teaching in other medical schools. Much as we regret it, most graduate medical training and research unrelated to the war must be interrupted in the interest of the immediate war effort.

In conclusion, as a member of the Directing Board of the Procurement and Assignment Service, I would like to say that the medical schools of this country can justifiably take pride in the prompt and effective manner in which they have adapted their programs and made their facilities and personnel available for service in the war effort.

DISCUSSION

DR. C. SIDNEY BURWELL (Harvard University): Dr. Diehl's lucid and informative paper has given you so much of this important story that I will only add one or two points for emphasis. The problem which confronted the Procurement and Assignment Service was one of extraordinary complexity. It had to consider the needs of research, of the education of medical students, and of the provision of medical care for Army and civilians alike, and try to make plans for a distribution of medical personnel which would meet all of those vital objectives as well as it was possible.

In considering the makeup of medical school personnel, the Subcommittee on Medical Education early decided that it was not possible to arrive at an arbitrary formula establishing the number of men in the school necessary to carry on its work. The principles on which the Subcommittee on Medical Education and Procurement and Assignment have operated was to bring together two accumulations of information: The information supplied by the dean of the school, with his full knowledge of the particular problems peculiar to his locality, to his school, and to his responsibilities; to supplement that with the knowledge of the central group which had opportunity to know of overall needs and of general policy, and from a pooling of those two reservoirs of information to work out a solution for each school which was fair to it and fair to the needs of the nation. Dr. Diehl has given you the essential facts as to what was done.

A number of problems seem to be very acute, and I would like to refer to two or three of these as a slight addition to what Dr. Diehl said. In the first place, as we look to the future we are confronted with entirely unknown problems of personnel. It is highly important that we should know as early as possible what the needs of the

Army, for example, are going to be, how large the personnel of the Army and Navy are going to be, and what changes they are proposing to make in their tables of organization to reduce the total number of doctors which they will require.

The second problem is the possibility of using nonmedical personnel to add to the resources of medical schools and other medical organizations. For example, there are in the colleges of the country a very considerable number of biologists who are probably not going to have a great deal of teaching to do in the next few years, especially in the higher courses. Let us say, which is probably not very far from the truth, that there are 1,000 such. Is there a possibility of utilizing these men to supplement the teaching in medical schools of histology and embryology, for example? Is there any way in which they could be utilized in hospitals or research laboratories, and are there other groups which, because of their experience and training, can make a contribution to medical problems in which the personnel question is vital and acute?

Finally, I want to say a word about research. As my own experience and thinking have gone on, this has come to have a larger place than it had in the beginning. Dr. Diehl correctly said that official war research must be given the gun to go ahead, and provision must be made for the classification as essential of people who are necessary to such official research. He also said, and I am afraid correctly, that it was necessary that a certain amount of long distance research must be an immediate casualty of the war, but I should like to try to make a distinction here between research and researchers.

I consider that one of the most important assets of America—not American medicine, but America—for the war is a body of scientific men who are capable of doing research of importance to the war and of importance to peace. I believe it is urgently necessary that these men should not be deflected into fields of activity in which they will be unable to carry on investigation, if it should be needed.

You will have observed that a very considerable number of young men, under 38, were classified as essential to the teaching function of medical schools. There is no doubt that a large number of those young men are also capable investigators. It is a great and urgent necessity, in my opinion, that the promise of young men in investigation in scientific fields should be considered in recommending them for classification as essential or available. It may be, if the war continues for a considerable time, that this will be of very much more importance than the provision of a small number of men for routine Army service.

You will recall that Dr. Andrus reported yesterday that only 567 men holding the medical degree are participating in investigations under the Medical Research Committee. That is a very small number of medical men. Their contribution through investigation is immeasurably more important than their contribution could be as medical officers, however many of them would like to have their activities take that other course.

In conclusion, I want to say for the subcommittee that we have had the greatest helpfulness and cooperation in a very difficult, onerous task from the deans of medical schools. We are very grateful to you for your help and understanding, and we look forward to your continuing them.

DR. MAXWELL LAPHAM (Tulane University of Louisiana): All of you will realize that it is obviously impossible in Washington to analyze statistical material accurately. But I think the study we have made has shown that there have been some rather marked discrepancies and we felt justified in pointing out these discrepancies since they did affect the war effort.

We have no intention of depleting faculties more than we have to, realizing the emergency in the Army and the Navy. We are ready to protect any department of a medical school which has arrived at the point of becoming markedly depleted. In a

number of instances the schools did not return accurate records, in the sense that it seemed to us that in a number of cases a man spent a relatively short time in teaching. I believe a number of the deans, or the heads of departments, did not return the entire amount of time each man spent in teaching, and we have returned a number of questionnaires, requesting that the time spent by individuals be appraised more carefully. In some instances it seemed perfectly obvious, in the clinical departments particularly, that a man would certainly spend more than twenty hours a year in teaching surgery or some other subject. Possibly only the didactic teaching was included in the returns, whereas we feel that ward rounds and other clinical teaching should have been included.

I want to point out one other matter that Dr. Diehl brought up in his paper, and that is the question of protecting the man who is insistent on going into service. For some time we have been discussing various means of designating a man as essential in civilian life by a button, by a certificate, by an arm band, or some other means. We have never arrived at any conclusion about how we should designate these men, and it seems to me much more preferable that probably a letter from Procurement and Assignment Service to the person might be helpful in relieving the mind of the individual of his immediate responsibility to the armed forces. Obviously, many of these men are more important in the field in which they are working now, and it is possible that some letter from the main office might help them to realize their importance.

I would not like to feel that we had to do this on a wide scale, but if there are individuals in medical schools who are insistent on going into the service, and who have been considered essential to the school, we would be very glad to write such a letter to him. I think Dr. Chandler this morning suggested a letter to the dean indicating the number of men, or the names of men, who have been declared essential might be sufficient for Procurement and Assignment Service to do, and the dean, in turn, pass this word on to the individuals. Whichever method is preferable, we will be glad to cooperate with the deans of medical schools. I think this will be very helpful. Since every man is potentially a candidate for service in the Army or the Navy if he is under 45 years of age, we cannot give him any permanent designation of essentiality, so that a letter indicating that, at least for the time being, he is essential probably should be sufficient at this time.

DR. T. SOLLMANN (Western Reserve University): I would like to ask Dr. Diehl for further clarification of the one thousand hours for full time. That would mean forty hours a week, if I gather it correctly. That would allow no time for preparation. In the preclinical branches, few men give as much as fifteen hours of actual teaching per week, but they would automatically be "full time." The clinical teachers would also have to have an allowance for preparation.

DR. HAROLD S. DIEHL: We took as a full time teaching load the figure of 1,000 hours a year, including laboratory teaching, clerkship, outpatient clinics, "rounds," and so forth. On the basis of fifty weeks per year, this would average twenty hours a week. However, I want again to emphasize that this figure has no importance whatsoever, other than as a yardstick for making comparisons.

DR. A. CYRIL CALLISTER (University of Utah Medical School): Some time ago the committee asked all state committees to place on their boards a representative of medical education where that had not already been done. I think perhaps some of our difficulties in the past have been due to the fact that on some of the State Procurement and Assignment Boards there has not been a representative of medical education. I would like to ask Dr. Diehl if that has now been done.

DR. HAROLD S. DIEHL: I do not believe that the Directing Board has ever stated definitely that there should be a representative of medical education on each State

Procurement and Assignment Service Committee. The Corps Area Committees each include a representative of medical education, but at the state level they usually are informal advisers rather than committee members.

DR. A. CYRIL CALLISTER: I have on file a letter that a representative of the State Department of Health and one of the medical education be added to our committee.

DR. HAROLD S. DIEHL: If you got that it was an error in typing, because it should have gone to the Corps Area committee. That is intended in the Corps Area committee, but in the State Committee there has been no such provision. That may have come from the Corps Area chairman. He may have made that recommendation within his Corps Area, but it has never come from the Directing Board.

DR. MAURICE H. REES (University of Colorado): The same thing has happened in our state. Within the last three weeks the State Chairman has asked for a representative from the medical school, stating that he had received authorization to enlarge his committee and include a member from the medical schools.

DR. MAXWELL LAPHAM: No such letter, so far as I know, has been sent out. However, the State Chairman does have the privilege of appointing anyone.

DR. HAROLD S. DIEHL: The State Chairman may do that. Are you in the same Corps Area as Dr. Callister?

DR. REES: We are in different Corps Areas.

DR. DIEHL: It might be the Corps Area requesting it, because that request does not come from the central office in Washington.

DR. WALLER S. LEATHERS (Vanderbilt University): I think the point Commander Lapham referred to concerning the essential features, having some kind of recognition by the government, is very important. He remarked that it might be the policy of the Procurement and Assignment Service to give extensive consideration to this matter, but in the event that some individual was disturbed as to whether or not he should join the Army, they would be willing to write him a letter or write the dean a letter. That would not be very satisfactory, for the reason that all of these men are sensitized with reference to what they ought to do, and many of them are debating as to whether or not they should enter military service even though they have been designated essential teachers, as it is a matter of individual responsibility on their part.

Some system ought to be worked out to give recognition to these men where it is due. In other words, if they are essential in the medical school, it is perfectly fair to recognize that essentiality and give each of them a letter indicating that fact, or write the dean indicating the names of those that the Procurement and Assignment service regard as essential, and make some expression that these men are rendering a patriotic service by remaining in a medical school. Unless some system of that kind is brought forward there will be a great deal of difficulty in maintaining standards of medical education.

DR. B. I. BURNS (Louisiana State University School of Medicine): I would prefer to see a card, similar to the Selective Service card to carry on the person. It would, at least, be easily available to display on occasion.

DR. JOSEPH C. HINSEY (Cornell University Medical College): One of the difficulties we have had in New York City is that the men on the essential list receive letters from Procurement Boards of the Army that they have been made available by the Procure-

ment and Assignment Service in Washington. While we have had no difficulty at all in handling each case as it came up, it has given rise to a great deal of uneasiness on the part of certain people whom we had declared essential. I wonder whether or not it would be possible to stop that sort of approach to the members on the essential lists. It can be dealt with easily enough through the Procurement and Assignment Service, but at least the psychological results have not been too good.

DR. HAROLD S. DIEHL: The Procurement and Assignment Service in Washington never declares anybody available. That is done by the state committee. The instance of which you speak was probably due to some readjustments and temporary disorganization in the state office in New York, which has been corrected by this time.

As I said in my paper, if letters of that sort are received, consider them as in error and take them up with the Chairman of your State Committee. Everybody is attempting to avoid errors, but in these days they do seem to occur even more frequently than normal.

Dr. Poynter suggests that I call attention to the fact that the Procurement and Assignment Service "Corps Area Committees" cover the same areas which the Army now calls "Service Commands."

Dr. Chandler asked whether the report is correct that some deans listed as available all men over 45 years of age, as well as those members of their staffs who were women or were physically disqualified for service. I am sure that report is an exaggeration. If any such tendency appeared in any of the lists, they were sent back with an inquiry as to whether that was not a mistake.

The point raised by Dr. Leathers is of great interest to all of us. That is the possibility of giving individuals who are essential teachers, particularly those of military age, some official recognition of the fact that they are rendering an important service to the war effort. That is a subject of which the Directing Board has been acutely aware. In fact, I have become almost a nuisance by bringing up that question at almost every meeting. All of us who are deans know how difficult it is to convince certain of our younger men that they should continue teaching instead of going into service.

If Dr. Roscoe Miller will permit me, I would like to repeat a simile which he used in speaking of this yesterday. It seems that during President Benjamin Harrison's administration, the authorities in Washington became concerned about the practice of polygamy among the Indians. Feeling that something should be done about this, the President invited the chiefs of some of the major tribes to come to Washington for a conference. At this pow-wow the great white father talked to them about the evils of polygamy, the advantages of having just one wife as the white man does instead of several, and so on. The Indians sat there apparently unimpressed, so the President, a bit discouraged, turned to the chief at his right and said, "Chief, how many squaws have you?"

"Ugh, me have five."

So the President said, "Now after this conference what we would like to have you do is to go home and pick one of them to be your wife. Then tell the others to go away."

Still expressionless, the chief replied, "Ugh, you tell 'em."

We are in almost as difficult a situation as that in dealing with some of these members of our faculties who want to go into service.

Certainly, it would be desirable to give them some designation, to indicate that they are rendering a war service. However, if we do it for the doctor who is a member of the teaching staff, we will have to do it for the doctor who serves in a war industry, because he, too, is rendering essential service. Then we will have to give it also to the doctor who is rendering service to a civilian community in Tennessee or northern Minne-

sota. And, if we do it for the doctor, the War Manpower Commission will have to do it for the engineer, the chemist, and the farmer who are needed at home. So, as you see, the problem is much more difficult to deal with on a national basis than it seems when we think only of the group with which we are concerned. However, if voluntary recruiting is discontinued and the War Manpower Commission is given authority to assign people to the jobs where they can best serve during the war, that will help solve our problem also. Until such authority is passed, it is difficult to know how to deal with this. If any of you have any practical suggestions I am sure we would welcome them. The one we have made so far is that each dean write to the members of his faculty who are considered essential, advising them of this fact. In special cases the Procurement and Assignment Service will be glad to supplement and support the dean's letter if requested to do so. As a suggestion concerning such a letter, I have attached to the sets of charts and tables distributed a copy of the letter which I sent to those members of our University of Minnesota faculty who are listed as essential and are of military age.

DR. PHILIP A. SHAFFER (Washington University Medical School): I would like to ask Dr. Diehl about a point that seems to me important, which I believe has not been touched on here this morning. What are the plans by which we may recruit, train and hold the necessary, if limited, number of replacements for departments in medical schools and hospitals? We are about to be denied the source of this material. We have promised to take all the material in our hands and pass it completely through after not more than two years of internship. What provision have we for securing replacements for our staffs? If, as seems probable, this war should go on for a while longer, that is going to become increasingly a vital problem in the success of this whole enterprise; and nobody is yet talking about it.

DR. HAROLD S. DIEHL: The point Dr. Shaffer makes is of exceeding importance because if the war continues a long time, there will be a serious problem of securing replacements in our teaching staffs. Some of these, unquestionably, can come from men of ability who are not physically qualified for service. Furthermore, a few carefully selected individuals, who should be trained as replacements, might be appropriately designated, after two years of residency, not as third year residents, but as instructors on the staff.

DR. PHILIP A. SHAFFER: May I ask just one more question? Has the possibility been considered by the Army and the Navy of sending back a few officers having field experience with the military forces, for a period of service in the schools? It seems to me a limited number of such personnel might be of great value under present circumstances.

DR. HAROLD S. DIEHL: To my knowledge, that has not been considered. I know that the question has been raised, but they felt that at the present time it is not feasible. Whether that will change, I do not know.

DR. STANLEY DORST (University of Cincinnati): There is another question that naturally follows Dr. Shaffer's question. In all this discussion of residents, the view has been to protect the civilian, leaving a minimum number of residents necessary to care for the needs of the community. It seems that is to be done with the two year residency. Maybe it can be done.

I cannot speak for other communities, but I can tell you that in Cincinnati there are no young specialists left. They are all gone. Men who are trained in surgery, orthopedics, and so on, of military age, have been wiped out and are in the service. We have an

Army of something over four million men, and we are talking about an Army of seven or ten million men. Where is the Army to obtain a continuous flow of trained specialists to meet this expanding need and to provide replacements for the future?

It seems quite likely, if things go on as they are, and we think of residents only in terms of the need of the hospitals and not of the needs of the Army for the additional flow of trained men, that within a few years we will be asked to accelerate the schedule for training residents. Unfortunately, men with specialized training cannot be produced by an order from Washington. We must be permitted to train them before the need becomes urgent.

DR. E. S. RYERSON (University of Toronto): In Canada this question has been under consideration by the deans of some of the schools and the authorities at Ottawa, and the agreement has come that they will, after two years of service, consider sending back to school certain men who have partially completed their residencies to spend from six months to one year in becoming fully qualified as specialists. We have recently had a communication from the medical officer in command of the Navy asking that some of his officers be returned for that purpose. So I think Dr. Shaffer's idea is an excellent one and should receive consideration.

DR. HAROLD S. DIEHL: The attitude of the Army and Navy at the present time is that their most urgent need is for the young doctors in the age group from which we ordinarily select our residents. To meet their present needs, they say that, except for a few fields, there are plenty of specialists available. Hence, they are not justified in granting deferment of active duty to these young men who they need now because of the fact that they may need them as specialists some time in the future. However, the point you make is absolutely correct, and as the war proceeds, particularly if it is prolonged, there will doubtless be changes in policy in regard to many of these things.

DR. WALLER S. LEATHERS: Assuming that the men 45 and under have been approved by the State Committee on Procurement and Assignment, and have been carefully chosen, and are accepted as essential by the central office of Procurement and Assignment, would it be possible for the Procurement and Assignment Service to support the dean in approving that list, so that he can transmit to these men that they have been confirmed? That is the point they are asking about and want done.

DR. DIEHL: The answer to that, Dr. Leathers, is "yes." We can and we will be glad to do that.

Report of Committee on the Teaching of Tropical Medicine in Undergraduate Medical Schools of the United States*

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In December, 1941, the Committee sent a questionnaire to the deans of all the medical schools in the United States asking for a list of instructors particularly interested in tropical medicine or parasitology, a statement of the special training which these instructors have received, and a statement of the instruction in tropical medicine and parasitology given to undergraduate medical students.

A preliminary report was published in the *JOURNAL OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES*, March, 1942, entitled "The Teaching of Tropical and Parasitic Diseases in Medical Schools of the United States." Since the publication of that preliminary report, considerable interest has been expressed by several medical schools in increasing instruction in these subjects, and the National Research Council, at the suggestion of the Office of the Surgeon General of the Army, has secured a grant from the Markle Foundation by means of which a program of travelling lecturers on tropical medicine is being developed.

Replies to the questionnaire sent out by the Committee were received from all medical schools.

AMOUNT OF INSTRUCTION

Table 1 shows the number of hours devoted to parasitic and tropical diseases in these schools. The Committee believes that 30 hours is the minimum time in which sufficient instruction can be given in parasitic diseases. It will be noted that 40 of the 66 four year schools, and 8 of the 10 two year schools give less than 30 hours of required instruction in this subject. A really adequate course in this subject covering all of the important diseases of man caused by animal parasites requires more than 60 hours. Only 5 four year schools and one two year school offer required courses of this length.

*The Committee wishes to express its appreciation to Dr. Jean A. Curran, President of the Long Island College of Medicine, for valuable suggestions in the preparation of this report.

Presented at the Fifty-third Annual Meeting of the Association of American Medical Colleges, held in Louisville, Kentucky, October 26-28, 1942.

Six four year schools offer elective instruction in parasitic diseases. In two of these schools no required instruction is given, while in the other four schools, elective courses are supplemental to required instruction.

It is difficult to set a minimum amount of instruction which would be adequate to cover the essential features of tropical medicine in addition to work in parasitic diseases. In most schools such instruction would naturally be given in bacteriology, pathology, internal medicine and in some of the specialties. Since tropical diseases are usually neglected in the clinical years because of teaching by the case method, it is important that a certain amount of time be devoted to the more or less didactic presentation of the important tropical diseases. The Committee believes that at least 20 hours could profitably be devoted to such instruction. It will be seen in table 1 that only 5 schools devote more than 20 hours to required instruction in this subject. Among those which devote from 1 to 20 hours, the largest number of hours reported was 17. Elective instruction in tropical medicine is given by 6 schools. Of the 3 schools giving less than 20 hours, 1 school gives 6 hours and 2 schools give 16 hours of instruction. Of the 3 schools giving 80 or more hours of elective instruction, 1 school offers a complete course of 144 hours or a half course of 72 hours. The other 2 schools have in the past offered summer instruction at the School of Tropical Medicine in Puerto Rico. This analysis of instruction indicates that although a minority of the schools give adequate instruction in parasitic diseases and a small proportion give adequate instruction in tropical medicine, there is a need, particularly at this time, for greater emphasis on these subjects in most of the schools.

QUALIFIED INSTRUCTORS

Table 2 gives a list of instructors reported by the medical schools to be particularly interested in tropical medicine or parasitology, together with the academic and practical training which they were reported to have had. It is believed that this list will be valuable as an indication of the distribution of this type of personnel in the medical schools of the country. The data on academic and practical training in these special fields are undoubtedly incomplete, but give an indication of the extent of postgraduate study and field experience which has been provided. An analysis of this table indicates that training which the Committee feels is adequate for instructors in these fields has been received as follows:

Academic training in foreign schools.....	19
Academic training in United States schools.....	55
Academic training in both foreign and United States schools.....	9
Practical training in the tropics.....	55

Thus 83 instructors have had adequate academic instruction in parasitic or tropical diseases or both, and 55 have had practical experience in the tropics.

In addition a number of instructors have undoubtedly had extensive practical experience in parasitic diseases in the United States, but it is impossible to state this in definite terms from the information received.

Table 3 shows the situation in each medical school with reference to the number of instructors with special training and the hours of instruction in parasitology and tropical medicine. In preparing this table, it has been necessary to make arbitrary distinctions between "special interest" and "special training" as reported in the questionnaires. For this reason a few of the instructors listed in table 2 have been omitted in compiling table 3. On the other hand, some instructors have had special training in both parasitology and tropical medicine, and are included in both categories. Only individuals holding an M.D. degree, however, were considered to have had special training in tropical medicine. Table 3 shows 17 four year schools and 5 two year schools as having no personnel with special training in parasitology, and 33 four year schools as having no personnel with special training in tropical medicine. The table also shows that there is a fair degree of correlation between the presence or absence of trained personnel and the presence or absence of instruction in these subjects. The data suggest, however, that in a number of schools, more adequate instruction could be given by the personnel already available.

RECOMMENDATIONS

The Committee recommends that the following provisions be made for instruction, personnel and equipment in the teaching of parasitic and tropical diseases to undergraduate medical students:

INSTRUCTION IN PARASITIC DISEASES

1. A *required course*, preferably in the latter part of the second academic year, occupying from 30 to 90 hours. Thirty hours is suggested merely as a concession to a crowded curriculum; 60 hours is the minimum for an adequate course. This course should consist of lectures and laboratory exercises on the intestinal protozoa, malaria, the blood flagellates, the important trematodes, cestodes, nematodes and arthropod vectors. Where sufficient hours are provided, spirilla and certain spirochetes which are not taught in bacteriology may be included. Although this course would be concerned, primarily, with developing a familiarity with the parasites themselves, the interest of the students can be increased greatly by a consideration of life cycles, pathology, epidemiology, clinical symptoms, treatment and prevention. The latter part of the second year is recommended as the most suitable location in the curriculum for this course, because the students will probably have completed their bacteriology, pathology, and clinical microscopy, and will be starting instruction in clinical subjects. This should make it possible to deal with the broader aspects of the subject, and thus command a greater interest than if the course were given earlier. For the same reason, it is suggested that the course be designated "Parasitic Diseases" rather than "Parasitology."

A suggested outline for a course of this type is presented in Appendix A. In this outline the minimum amount of time suggested for the course is 38 hours, the maximum 90 hours. If only 30 hours is devoted to it, the portion devoted to medical entomology can be omitted, and brief consideration can be given to the

important vectors of disease during the periods devoted to the parasites transmitted by them. This outline is presented chiefly to indicate the important animal parasites of man. The apportionment of time devoted to each infection would vary somewhat with individual instructors.

2. *Practical experience* in the examination of patients for animal parasites should be required of students during their outpatient work and clinical clerkships. Stool examinations are instructive in differential diagnosis, even if they reveal only nonpathogenic protozoa. If the parasitologist is a member of the hospital staff, and is called on freely for consultation or has certain parasitological examinations to perform routinely, his services, coupled with the increased alertness of the students and interns, will prove surprisingly fruitful.

3. An *elective course* in the third or fourth year for consideration of the less common or less important parasitic diseases, or for advanced instruction to students having a particular interest in this field.

INSTRUCTION IN TROPICAL MEDICINE

In the few schools having a separate department of tropical medicine, an adequate required or elective course will undoubtedly be given in the third or fourth year. In most schools, however, most of this instruction should be provided in the course in general medicine or possibly in preventive medicine. A number of other departments, such as surgery and dermatology, might participate in this instruction, but the important consideration is that it should be planned deliberately by someone who is particularly interested and, if possible, particularly trained in the field of tropical medicine. Otherwise, important diseases are likely to be omitted or the entire field may be neglected.

Instruction should consist of comprehensive lectures or clinics, or both, in which the following diseases are considered: The dysenteries, infectious diarrheas, cholera, malaria and its control, yellow fever, dengue fever, the rickettsial diseases, plague, leptospirosis, relapsing fever, leprosy, yaws, other tropical skin diseases, nutritional diseases, especially beri-beri, pellagra and sprue, the effects of heat, and personal hygiene in the tropics. These subjects can be covered in about 20 lectures, and although it is recognized that this is not the most effective form of teaching, the importance of the subject, especially in connection with the war, warrants this recommendation. The liberal use of lantern slides, and in some cases motion pictures, will add to the effectiveness of presentation. Whenever clinical cases of the above diseases are available, they should be used to supplement the lectures or possibly to replace them.

TEACHING PERSONNEL

The instructor responsible for teaching parasitic diseases should preferably have taken graduate work in animal parasitology either in a university giving graduate degrees in this field or in a school or department of tropical medicine. To be most effective, he should possess a medical degree, or should have had extensive field experience in human parasitology. A combination of these qualifica-

tions is most desirable. Instruction would be most effective if both a well trained parasitologist and a physician trained in tropical medicine could share this instruction.

Instruction in tropical medicine outside the field of the animal parasites can be given most effectively by a physician who has had a graduate course in a recognized school or department of tropical medicine, together with practical experience in the tropics. Such persons are not numerous in this country, but some are available who are not now being employed in teaching, and it may be possible to secure their services, particularly for the duration of the present emergency. There are some very valuable individuals, who have not had graduate academic instruction in tropical medicine, but have had extensive experience in the tropics. They include members of the staffs of commercial companies with interests in the tropics, members of the staffs of certain Foundations, and medical missionaries who have either retired from active service, or are prevented from returning to foreign stations. Some well trained men are already on the staffs of medical schools, but are teaching in other fields.

An even more profitable method of meeting the present emergency would be to make provision for certain instructors who have not had training in tropical medicine or parasitology to attend an intensive two months' course, such as that given at the Army Medical School or at Tulane University. It is hoped that such a program can be developed in the very near future.

Reference has been made at the beginning of this report to special lecturers who are being provided under the auspices of the Division of Medical Sciences of the National Research Council to visit medical schools during the present emergency for the purpose of giving brief instruction in the important tropical diseases which are likely to be encountered in military service. These lectures are intended particularly for fourth year students and interns, and should be considered supplemental to basic instruction in parasitic and tropical diseases. A more profitable emergency arrangement would be to have well trained instructors take teaching material from their own schools to other schools lacking facilities, and give a complete course in parasitic or tropical diseases. This method was used recently when a group from Cornell gave a course in parasitic diseases at the Long Island College of Medicine under a "Visiting Instructor" subsidy from the Commonwealth Fund.

EQUIPMENT FOR INSTRUCTION

The efficient teaching of parasitic diseases requires specimens of the animal parasites of man in sufficient quantity so that individual students may have ample opportunity for gaining familiarity with them. Such specimens are often difficult to obtain, but this can be done if a well trained instructor is responsible for the course. Medical schools and research laboratories situated in areas where parasites are plentiful are often willing to assist in the accumulation of such specimens, and these sources are usually known by those who are well trained in the subject.

An additional aid would be the establishment of a distributing center for parasitological specimens to assist schools in obtaining this teaching material. The response to a recent questionnaire indicates that most of the schools would welcome such a service.

Lantern slides can be prepared from standard textbooks. A few motion picture films are available, notably one on malaria control prepared by the Tennessee Valley Authority and one on Rocky Mountain Spotted Fever prepared by the United States Public Health Service. Wall charts of parasites, arthropods and life cycles can be purchased from biological supply houses or copied from standard textbooks.

SUBSIDIES

The Committee recommends that the Association of American Medical Colleges seek subsidies from public or private funds to assist certain schools temporarily in securing personnel and specimens for the teaching of parasitic and tropical diseases. This would be a good investment in the preparation of future medical officers for service in the tropics, and should lead to an appreciation of the value of such instruction as a permanent part of the medical curriculum.

FURTHER COOPERATION

The members of the Committee will be glad to assist medical schools as far as possible with advice as to personnel or equipment in establishing adequate instruction in this field of medicine. It is recommended, however, that the Association of American Medical Colleges appoint a committee composed of leaders in this field from various parts of the country, who can act as advisors to the schools in their respective regions.

COMMENT

The international developments since this Committee was appointed last year indicate the urgency of preparing the medical officers of our armed forces to cope with the diseases of the tropics. This was foreseen by the Army and Navy, both of which last year established special courses for men already in service. The accommodations for the course at the Army Medical School have recently been expanded to handle 100 students every two months, and will soon be expanded to handle 200 students. These, and the Navy course, however, cannot nearly meet the present need. Many medical officers have already gone to the tropics without the necessary training. All indications point to a long war, in which most of our present medical students will see active service. Now is the time to give them the foundation training which will aid them most in keeping the troops in fighting condition.

There is also a longer range objective to be kept in mind. Troops returning from the tropics will bring chronic malaria and other infections for diagnosis and treatment or for possible transmission to others. Furthermore, victory will open up many opportunities for physicians to assist in the rehabilitation of war torn

areas, and in the sanitation of the tropics. Our own future peace may depend largely on our ability to bring health to these areas as a preliminary step to the prosperity promised by our leaders. The teaching of medicine must have a world outlook. The Committee urges that the Association of American Medical Colleges take definite action which will encourage and aid the medical schools of the country to meet this present and future need.

SUMMARY OF RECOMMENDATIONS

1. That the Association urge medical schools to adopt the following program for the teaching of parasitic and tropical diseases:

- (a) A course in parasitology for all second year students, and for third and fourth year students who have not had such instruction, occupying not less than 30 and, if possible, not less than 60 hours.
- (b) Instruction in the pathological, clinical, epidemiological and preventive aspects of tropical diseases, occupying not less than 20 and, if possible, not less than 30 hours in the third or fourth year or both.
- (c) Emphasis on practical experience in the examination of blood and feces for animal parasites during clinical clerkships, outpatient instruction and internships.
- (d) Offer interns in hospitals affiliated with medical schools the opportunity to take courses (a) and (b), either with the medical students or as specially arranged courses, if they have not already received adequate instruction in these subjects.
- (e) Take immediate steps to obtain competent instructors in parasitic and tropical diseases if they are not already available.

2. The Committee, after consulting with an interested group, including representatives of the Army and Navy, recommends that the Association sponsor and proceed at once to implement a program for improvement in the teaching of tropical medicine and parasitology in medical schools. To accomplish this, the Committee recommends the following actions:

- (a) Offer to each medical school an opportunity to send two or more staff members to attend an intensive course in tropical medicine or medical parasitology during the coming year.
- (b) Obtain the cooperation of the Army and Naval medical schools and other necessary institutions to accept staff members of medical schools in courses of the above type, beginning not later than January or February, 1943.
- (c) Sponsor and take steps to develop a distributing center for specimens and other teaching material to assist medical schools in the teaching of tropical medicine and parasitology.

- (d) Request the John and Mary R. Markle Foundation to provide financial support to carry out the above program.

Although this action is recommended as an emergency measure, the Committee hopes that it will result in a continuous and permanent development in the teaching of tropical medicine.

3. That the Association appoint a committee composed of experts in parasitology and tropical medicine from various parts of the country to act as consultants to schools in their respective regions with reference to obtaining instructors and teaching material.

APPENDIX A.

Suggested Outline for Course in Parasitic Diseases for Medical Schools

	Number of Hours	
	Minimum	Maximum
PROTOZOAN INFECTIONS		
Intestinal Amoebae	6	12
Intestinal Flagellates and Ciliates.....	3	4
Malaria	6	12
Trypanosomiasis and Leishmaniasis.....	3	6
Review	—	3
HELMINTHIC INFECTIONS		
Schistosomiasis	2	4
Clonorchis, Fasciolopsis, Paragonimus.....	1	4
Taenias, Echinococcus	2	4
Hymenolepis, Diphylobothrium	1	2
Hookworm, Strongyloides	2	4
Ascaris, Trichocephalus, Enterobius	2	4
Trichinella, the Filaria worms.....	2	6
Review	—	3
MEDICAL ENTOMOLOGY		
Mosquitoes	3	8
Other Flies	1	4
Fleas, Lice, Bugs.....	2	4
Ticks, Mites	2	4
Review	—	2
TOTAL HOURS	38	90

TABLE 1.—TEACHING OF PARASITIC AND TROPICAL DISEASES IN MEDICAL SCHOOLS OF THE UNITED STATES

		No. of clock hrs. of instruction								Total Schools
		None	Indefinite in another course	1-20	21-40	41-60	61-80	80+		
Parasitic Diseases										
Required	4 year schools	10	9	11	10	9	12	4	1	88
	2 year schools	5	2	0	1	0	1	1	0	10
Elective	4 year schools	60	1	2	0	2	0	0	1	66
Tropical Medicine										
Required	4 year schools	41	8	12	1	2	2	0	0	66
Elective	4 year schools	60	0	3	0	0	0	0	3	66

TABLE 2.—MEDICAL SCHOOL STAFF MEMBERS PARTICULARLY INTERESTED IN TROPICAL MEDICINE OR PARASITOLOGY

Four Year Schools	Degree	Title	Academic	Training or Experience	Practical
U. of California	M.D.	Prof. Trop. Med.	Lond. Sch. T. M.		Practice, China
Alfred C. Reed	Ph.D.	Asst. Prof. Bact.	U.C. Parasit. and Zool.		
Herbert G. Johnstone					
Stanford U.					
H. A. Wyckoff	M.D.	Assoc. Prof. Clin. Path.			Clin. Path.
U. So. California					
John F. Kessel	Ph.D.	Prof. Bact. and Parasit.	U.C. Parasitol.	China, Teaching and Res.	
Maynard Brandama	M.D.	Instr. in Med.	Inst. for Trop. Hyg. and Med. Amsterdam	Batavia—Queen Emma Hosp.	
Coli. Med. Evangelists					
Gilbert D. Curtis	M.D.	Instr. in Path.		Gen. training—2 yrs. resid. in large General Hosp.	
D. E. Griggs	M.D.	Assoc. Prof. of Med.		China, Trop. Med.	
O. B. Pratt	M.D.	Assoc. Prof. of Path.		Gen. training in Clinie. Lab.	
C. S. Small	M.D.	Assoc. Prof. of Path.		Gen. train. Clinie. Lab., Hosp. and Pathol. Dept.	
U. of Colorado					
Edward Mudge	M.D.	Prof. Pub. Health and Lab. Diag.			
Georgetown U.					
Mario Mollari	M.D.	Prof. Bact. and Immunol.	Univ. of Paris Trop. Med.		
Eugene R. Whitmore	M.D. Dr. T. M. M.D. Dr. P. H.	Prof. of Path.	London Sch. Trop. Med. Trop. Med. and Parasitol. Rock's Inst., Parasit. Research Columbia U., Protozoöl.	Study and investigation in the tropics	
George Washington U.					
Edw. B. Vedder	M.D.	Prof. Exper. Med.		U. S. Army, Philippines	
Pearl B. Holly	M.D.	Asst. in Dept.		Train. in Parasit. chiefly in Dept.	
Howard U.					
Hildrus A. Poindexter	M.D.	Prof. and head of Dept. Bact., Prev. Med., Pub. Health	Harvard, Trop. Med. Columbia, Trop. Med., Pub. Health School of Trop. Med., Puerto Rico Columbia, Parasit., Cornell. Univ. of Mich.—Parasit.	Puerto Rico	
Madison S. Briceoe	M.A.	Asst., Dept. Bact.			
Emory U.					
Winton Elizabeth Gambrell	Ph.D.	Asst. Prof. Bact. and Path.	Univ. Chicago—Parasit. School of Trop. Med., Puerto Rico	Puerto Rico	
Univ. of Georgia					
Robt. Barton Dienst	Ph.D.	Assoc. Prof.	U. of Chicago, Med. Entomol. Parasites of Man		
Everett S. Sanderson	M.D.	Head Dept. Bact. and Pub. Health		Chicago Health Dept. Special Parasitologist	

TABLE 2.—(Continued)

Four Year Schools Name	Degree	Title	Academic	Training or Experience	Practical
Univ. of Chicago C. G. Huff	Sc.D.	Prof. Parasitol.	Johns Hopkins Grad. work Harvard Med. School, Fellow		
Univ. of Illinois Marion Hood	Ph.D.	Assoc. in Med. and Parasitol. to the Hosp.			Gorgas Memorial Inst., Pan.
Loyola Univ. John W. Klimke	M.S.	Assoc.	Med. and advanced Bact. Univ. of Mich.—Protozool.		
Northwestern Univ. Henry R. Jacobs	M.D.	Instr. in Med.			I.H.D., Rockefeller Fdn. Africa—Yellow Fever
Leonard Jourdonais	M.D. M.D.	Assoc. in Med. Instr. in Med.			
A. H. Meier	M.D.				
Indiana Univ. C. G. Culbertson	M.D.	Dir. Clinic. Labs. Asst. Prof. Path.			
I. F. Peak	M.D.	Asst. F. M. S. and T.	I. U. School of Med.		Indiana State Bd. of Health Philippines and China, Panama and Mexican Border
State Univ. of Iowa M. E. Barnes	M.D. Dr. P. H. Ph.D.	Head of Dept. Parasitologist	London Sch. Trop. Med. and Hyg. Johns Hopkins Sch. Pub. Health (Paras.) State U. of Iowa—Parasit. State U. of Iowa—Parasit.		Rockefeller Fdn. in Far East Trop.
I. H. Borts Kenneth MacDonald	M.D. Ph.D.	Chief Bacteriologist Instructor			
U. of Louisville James A. Kennedy	Ph.D.	Prof. Pub. Health, Bact.			Teaching and diag. Lab. exper. at U. Rochester, U. of Louisville
Louisiana State Univ. G. W. McCoy J. C. Swartzwelder	M.D. Ph.D.	Director of Dept. Asst. Prof.	Tulane Univ.—Parasitol. Miss. State College London Sch. Hyg. Trop. Med.		Formerly Dir., Nat. Inst. Health
Tulane Univ. Ernest Carroll Faust Joseph S. D'Antoni W. E. Farrell	Ph.D. M.D. M.D.	Prof. Parasit. Asst. Prof. Trop. Med. Asst. Prof. Trop. Med.	Illinois Tulane Univ. London Sch. Trop. Med. and Hyg. Calcutta Sch. Trop. Med. Rostock, Tulane Harvard, Tulane Cornell U. Tulane U.		Research in Tropics Service in China and India
Wm. Sawitz	M.D.	Instr. in Parasit.			
Arden Howell, Jr.	Ph.D.	Instr. in Parasit.			
Albert Miller	Ph.D.	Instr. in Parasit.			
John E. Tople	Ph.D.	Instr. in Parasit.			
Harry Senckle	M.D.	Instr. in Trop. Med.	Beirut, Bagdad		

TABLE 2.—(Continued)

Four Year Schools Name	Degree	Title	Academic	Training or Experience	Practical
Johns Hopkins U.					
W. F. Cort	Ph.D.	Prof. Helminthol.	Illinois		China, Latin Amer.
G. F. Otto	Sc.D.	Assoc. Prof. Helminthol.	Johns Hopkins		Latin Amer.
L. C. Roseboom	Sc.D.	Assoc. Prof. Entomol., Protozoologist	Johns Hopkins		Latin Amer.
U. of Maryland					
W. N. Riegman	M.D.	Lecturer in Medicine	Univ. Maryland, Parasit.		U. S. Army, Trop. Med.
Louis A. M. Krause	M.D.	Assoc. Prof. of Med.	Johns Hopkins Med. Sch., Parasit.		
Walter A. Baetjer	M.D.	Assoc. Prof. of Med.	Johns Hopkins Med. Sch., Parasit.		
G. F. Otto	Sc.D.	Assoc. Prof. Helminthol.	Johns Hopkins Sch. Hyg.		Latin Amer.
Boston Univ.					
Charles A. Powell	M.D.	Asst. Prof. Trop. Med.	Peiping Med. Sch. 3 wks.		Medical work in China, 11 yrs.
David L. Belding	M.D.	Prof. Bact., Exp. Path.	Grad. study at Harvard		Parasitol. teaching—20 yrs.
Harvard Med. School					
Ernest E. Tysser	M.D.	Prof. Compar. Path.	Harvard U.		Latin Amer.
A. Watson Sellards	S.D.	Prof. Trop. Med.	Harvard U.		Philippines, Latin Amer.
George C. Shattuck	M.D.	Assoc. Prof. Trop. Med.	Harvard U.		Latin Amer.
Donald L. Augustine	S.D.	Assoc. Prof. Compar. Path. and Trop. Med.	Johns Hopkins		Latin Amer., Africa
Joseph C. Bequaert	Ph.D.	Asst. Prof. Compar. Path. and Trop. Med.	Ghent, Belgium		Africa, Latin Amer.
Quentin M. Geiman	Ph.D.	Instr. in Compar. Path. and Trop. Med.	U. of Pa., Harvard		Latin Amer.
David Weinman	Ph.D.	Instr. in Compar. Path. and Trop. Med.	U. of Paris, Harvard		Latin Amer.
Albert A. Horner	M.D.	Asst. in Trop. Med.			
Alexander H. Rice	M.D.	Lecturer on Dis. of S. Amer.			
Tufts Univ.					
Francis P. McCarthy	M.D.	Lecturer in Dermatol.			Pathologist during Panama Canal construction
Fernando Biguria	M.D.	Clin. Prof. of Med.			Internship in Guatemala
U. of Michigan					
Malcolm H. Soule	Sc.D.	Prof. and Chairman Dept. Bact.	Univ. Mich.—Parasit. Sch. Trop. Med., San Juan, P. R.		Unna Clinic, Berlin, T. M. Philippines, Trop. Med.
Wayne Univ.					
Harry L. Clark	M.D.	Prof. of Bact.	Univ. of Mich.		
Donald Beaver	M.D.	Asst. Prof. of Path.	Univ. of Mich., Mich. State Coll.		
Frederick Bell	Ph.D.	Res. Assoc. in Path.	Univ. of Minnesota		
U. of Minnesota					
Wesley W. Spink	M.D.	Assoc. Prof.	Harvard U.—Parasit.		
Gaylord W. Anderson	M.D.	Prof. and head of Dept. of PM, PH	Harvard—Parasit., Trop. Med.		

TABLE 2.—(Continued)

Four Year Schools Name	Degree	Title	Academic	Training or Experience	Practical
St. Louis U.					
Albert Kunz	M.D.	Prof. Microanatomy	U. of Iowa		U.S.P.H.S.
Lloyd B. Jones	Ph.D.	Assoc. Prof. Bact.			
Geroway O. Brown	M.D.	Prof. Med.	Rockefeller Inst., Harvard U.— Trop. Med.		
Raymond O. Muehler	M.D.	Instr. in Med.	Harvard U.		St. Louis Univ.
Henry Pinkerton	M.D.	Prof. Pathol.	U. S. Army		Latin Amer. Philippines
Matthew A. Reasoner, Colonel, M.C., U.S.A.	M.D.	Prof. Military Science			
Washington U.					
Hiram Tsuchiya	Sc.D.	Instr. parasit. and protocol.	Johns Hopkins Sch. Hyg.		Washington U.—Parasit.
Creighton U.					
F. E. Collen	Ph.D.	Assoc. Prof. PH., Prev. Med.	U. of Minn. and U. of Chicago— Parasit. and Trop. Med.		
C. Moran	M.D.	Ast. Prof. Path.			
U. of Nebraska					
Claude Mason	M.D.	Ast. Prof. Int. Med.	London Sch. Trop. Med.		Yrs. in China and Malay
Albany Med. Coll.					
William Kaufmann	M.D.	Ast. Prof. Path., Bact.	Prince Leopold Sch. Trop. Med. Trop. Med. and Parasit.		
Long Island Coll.					
Wade W. Oliver	M.D.	Prof. Bact.	Sch. Hyg. and Pub. Hith.—Manila		Brasil, bookworm survey, under Rockefeller Fdn., Philippines
Arthur W. Grace	M.D.	Prof. Clin. Dermat. and Syphilology	London Sch. Trop. Med. and Hyg.		Hosp. Trop. Dis., London Demonstrator, Lond. Sch. T. M. Phys. in charge of malaria Communicable diseases Council of Royal Soc. of Lon- don, British Guiana
Elberton J. Tiffany	M.D.	Ast. Prof. Bact.	Tulane		
J. A. Curran	M.D.	Dean and Act. President	P.U.M.C.—Parasitology	China	
Columbia U.					
James T. Culbertson	Ph.D.	Ast. Prof. Bact.	Lond. Sch. Hyg. and Trop. Med.— Parasit. and Trop. Med. Cornell Univ.—Parasit.		
Mrs. Constance R. Demarest	None	Ast. in Med.			Rockefeller Lab. in Honduras and Nicaragua
Cornell U.					
W. G. Smille	M.D.	Prof. Pub. Health and Prev. Med.			Rockefeller Fdn., Brasil and southern U. S.
Merton C. Kahn	Dr. P. H. Ph.D.	Assoc. Prof. P. H. and P. M.	U. of Havana—Trop. Med., Parasit.		Expeditions to Dutch Guiana, Brit. Guiana, Costa Rica, Guatemala, With U.S.P.H.S. in southern U. S. Panama Canal Commis. — '06-'09 Field work in Africa—'12-'15 Charge of Nat. Inst. of Parasit. in Nanking
Ralph W. Nause	M.D.	Instr. P. H. and P. M.	Lond. Sch. Trop. Med.		
John Yin Chieh Watt	Dr. P. H. Ph.D.	Ast. in P. H. and P. M.	Liverpool Sch. Trop. Med. Illinois U. Johns Hopkins		

TABLE 2.—(Continued)

Four Year Schools Name	Degree	Title	Academic	Training or Experience	Practical
N. Y. Medical College					
Laura Florence	Ph.D.	Assoc. Prof. Bact.	U. of Aberdeen, Cornell		Rockefeller Inst. Research in Parasit. and Med. Entomol.
Lois Lillick	Ph.D.	Instr. in Parasit.	U. of Cincinnati		
Margaret Hotchkiss	Ph.D.	Instr., Parasit.	U. of Michigan		
Earle F. Huff	M.D.	Lecturer, Med. (Trop. Diseases)	Columbia U., Medical Mycology		U.S. Navy—Tropical Diseases
New York Univ.					
Henry E. Meloney	M.D.	Prof. Prev. Med.	London School Trop. Med.		7 yrs. in China, P.U.M.C.
Harry Most	M.D.	Instr. Prev. Med. and Instr. Clinical Path.	London Sch. Hyg. and Trop. Med.		3 mo. in Puerto Rico
Dr. T. M., H.					
U. of Rochester					
Oliver R. McCoy	M.D.	Asst. Prof. Parasit.	Sch. Hyg. Johns Hopkins—Parasit.		China, Central Amer.
Edw. F. Orutt, Jr.	Ph.D.	Asst. Bact.	Rice Institute—Parasit.		
Syracuse U.					
Justus F. Mueller	Ph.D.	Lecturer in Parasit.	U. of Illinois—Parasit.		
Duke Univ.					
A. S. Pearse	Ph.D.	Prof. Zoology	London Sch. Trop. Med.		Yrs. in tropics—parasitol.
H. W. Brown	M.D.	Prof. Prev. Med.	London Sch. Trop. Med.		Parasit. studies in Panama and Tropics
D. S. Martin	M.D.	Assoc. Prof. Bact.	Sch. Trop. Med.—Puerto Rico		Fungus Diseases in Tropics.
N. F. Conant	Ph.D.	Asst. Prof. Bact.			
U. of Cincinnati					
T. J. LeBlanc	Sc.D.	Prof. Prev. Med.			Puerto Rico
C. A. Mills	M.D.	Prof. Exper. Med.			China
L. Foshay	M.D.	Prof. Bact.			
Western Reserve					
J. A. Doull	M.D.	Prof. Hyg. and P. H.	Johns Hopkins—Parasit.		3 yrs. in tropics, Brasil, Philippines and Puerto Rico
R. N. Hoyt	Dr. P. H.	Assoc. in Parasit.	Harvard U.—Parasit.		Supervision of mosquito control, City and County Pub. Health Ins. of Augusta, Ga.
Robert F. Parker	M.D.	Assoc. Prof in Med.	U. of Chicago—parasitol.		3 yrs. in lab. of Sch. of Trop. Med. at Puerto Rico
Ohio State					
N. Paul Hudson	M.D.	Prof., Chairman, Dept. of Bact.			Tropical Bact. and viruses research 3 yrs., Teaching 10 yrs.
Emmerich von Haam	M.D.	Prof., Chairman, Dept. of Path.			Charity Hosp., New Orleans, Trop. Path.
O. C. Woolpert	M.D.	Assoc. Prof. Dept. of Bact., Med.	U. of Chicago—parasitol.		Teaching—6 yrs.
Harry L. Reinhart	M.D.	Assoc. Prof. Dept. Path.			U.S. Navy Med. Corp., Trop. Path.

TABLE 2.—(Continued)

Four Year Schools Name	Degree	Title	Academic	Training or Experience	Practical
U. of Oklahoma					
Hiram D. Moor	M.D.	Prof. Bact.			
John Walker Morledge		Assoc. Prof. Med.			
Homor Floyd Morsh	Ph.D.	Asst. Prof. Bact.			
Donald Bard McMullen	Sc.D.	Assoc. Prof. Hyg. and P. H.	Johns Hopkins—Parasit.	Pub. H.	
Onita G. Hazel	M.D.	Asst. Prof. Bact.			
Robt. U. Patterson	M.D.	Asst. Prof. Dermat., Syphil.			
		Surge. Gen. U. S. Army—Retired			U. S. Army
Hahnemann Med. Coll.					
Hunter Cook	M.D.	Assoc. Prof. Path.			
S. W. Sappington	M.D.	Prof. Path.			
Jefferson Med. Coll.					
Randle C. Rosenberger	M.D.	Prof. Bact. and Immunol.			
William Harvey Perkins	M.D.	Dean, Prof. Prev. Med.			Siam
Temple Univ.					
Edwin S. Ganet	M.D.	Assoc. Prof. Path. and Bact.	Temple Univ.—Parasit.		
John A. Kolmer	M.D. Dr. P. H.	Prof. Med. in charge of Bact. and Immun.	Univ. of Penna.		
U. of Pennsylvania					
Herbert L. Ratcliffe	Sc.D.	Asst. Prof. Compar. Path.	Johns Hopkins Sch. Hyg. Pub. H.		
Woman's Med. Coll.					
L. A. Terrian	Sc.D.	Instr. in Med.	Johns Hopkins Sch. Hyg. Pub. H.		Research on E. histolytica. Asst. in Sch. of Animal Path.
U. of Pittsburgh					
George R. Lacy	M.D.	Prof. Bact., Immunol.			3 yrs. Bact., Path., Parasit. 6 mo. Camp Pike, U. S. Army. Special rep. of Rockefeller Fdn., Manila
Med. Coll. of So. Carolina					
Francis B. Johnson	M.D.	Prof. Clinical Path.			Local—over 30 yrs., Travel in Central Amer., Mexico
U. of Tennessee					
R. I. Hewitt	D.Sc.	Assoc. Prof. Prev. Med.	Johns Hopkins—Parasit.		
W. B. Wendel	Ph.D.	Assoc. Prof. Chemia.			
D. B. Morrison	Ph.D.	Asst. Prof. Chemia.			
M. H. Kinsely	Ph.D.	Assoc. Prof. Prev. Med.			
A. D. Dolancy	Ph.D.	Asst. Prof. Bact.			
Mcharry Med. Coll.					
William H. Grant	M.D.	Assoc. Prof. Med.	U. of Minnesota—Clin. Path.		
E. L. Turner	M.D.	Prof. Med.	Hematol., Parasitol.		Amer. Univ., Beirut, Syria—Pro. Med.

TABLE 2.—(Continued)

Four Year Schools Name	Degree	Title	Academic	Training or Experience	Practical
Vanderbilt Univ. Alvin E. Keller	M.D.	Assoc. Prof. P. M., P. H.			
Wm. W. Frye	M.D.	Assoc. Prof. P. M., P. H.	Iowa State Coll., Parasit.		Tennessee
Baylor Univ. W. H. Moursund	M.D.	Prof. Hyg., Prev. Med. Instr. Bact., Parasit.			
W. M. Fisher	M.D.				
U. of Texas A. Peckhamian	Ph.D.	Assoc. Prof.	U. of Michigan		U.S.P.H.S.
Luther L. Terry	M.D.	Asst. Prof.	Tulane—Trop. Med., Parasit.		
L. Angstein	M.D.	Associate	Several institutions abroad— Trop. Med., Parasit.		
W. Gingrich	D.Sc.	Assoc. Prof.	Johns Hopkins—Parasit.		
J. T. Hearin	D.Sc.	Instructor	Johns Hopkins—Helminthology		
U. of Virginia Geo. McL. Lawson	M.D.	Prof. Prev. Med., Bact.			
William Bray	Dr. P. H.	Prof. Clin. Microscopy			
K. B. Grim	M.D.	Instructor			
Med. Coll. of Virginia Frederick W. Shaw	M.D.	Prof.			
Fred J. Wampler	M.D.	Prof. Prev. Med.	Johns Hopkins—Parasit. Helmin.		3 yrs. in Philippines China
Marquette Univ. M. Fernan-Nunes	M.D.	Prof., Dir. Dept. Path., Bact., Assoc. Prof. Pub. Health	Univ. of Madrid—Trop. Med. London Sch. Trop. Med.		Tropical practice in Colombia, South Amer.
Two Year Schools					
U. of Mississippi Vernon B. Harrison	M.D.	Prof. Bact.	Tulane—Trop. Med., Parasit. Johns Hopkins—Parasit.		
Robert M. Moore	M.D.	Prof. Path. and Clin. Lab. Diag.	Tennessee—Clin. Path.		
U. of Missouri Newell R. Ziegler	M.D.	Assoc. Prof. Bact. and Prev. Med.	U. of Minnesota—Parasit.		
Dartmouth Med. Sch. Frank H. Connell	Ph.D.	Prof. Parasit.	California—Parasit.		Yucatan, Mexico
Eddy Davis Palmer	M.S.	Asst. Parasit.	Tulane—Parasit.		
U. of North Carolina Harold W. Brown	M.D. Dr. P. H.	Prof. Pub. Health	Johns Hopkins, London Sch. Trop. Med. and Hyg.		Central Amer.
Bowman Gray Sch. of Med. Harold W. Brown	M.D. Dr. P. H.	Prof. Prev. Med.	Same as above		Same as above

TABLE 3.—NUMBER OF INSTRUCTORS WITH SPECIAL TRAINING IN PARASITOLOGY OR TROPICAL MEDICINE, AND HOURS OF INSTRUCTION GIVEN IN THESE SUBJECTS IN EACH MEDICAL SCHOOL OF THE UNITED STATES

No.	School	Number of Instructors with Special Training			Hours of Instruction				Tropical Medicine		
		Total	Academic	Practical	Parasitology	Required	Elective	Yr.	Required	Elective	Yr.
1	Univ. of Arkansas	2	1	1	—	32	—	3	—	—	—
2	Univ. of California	1	—	1	—	+C.P.	—	—	+M., P.M.	—	—
3	Stanford Univ.	1	—	1	—	112	—	4	—	—	—
4	Univ. of Southern California	2	2	—	—	27	—	—	+M., B.	—	—
5	Coll. of Medical Evangelists	1	—	—	—	—	—	—	—	—	—
6	Univ. of Colorado	—	—	—	—	+C.P.	—	3, 4	+M.	—	—
7	Yale Univ.	2	2	—	—	48	—	—	—	—	16
8	Georgetown Univ.	2	2	1	1	23	—	—	—	—	—
9	George Washington Univ.	2	1	1	—	66	—	—	—	—	—
10	Howard University	2	1	1	—	—	—	3, 4	+M.	—	—
11	Emory University	1	1	—	—	24	—	—	—	—	—
12	Univ. of Georgia	2	1	1	—	40	—	—	—	—	—
13	Univ. of Chicago	1	1	—	—	—	—	—	—	—	—
14	Univ. of Illinois	1	1	—	—	22 B.	—	—	—	—	—
15	Loyola Univ.	1	1	—	—	—	—	—	—	—	—
16	Northwestern Univ.	1	—	—	—	—	—	3, 4	—	—	—
17	Indiana Univ.	2	1	1	—	16	—	—	11	—	—
18	State Univ. of Iowa	4	4	1	1	60	—	4	16	—	—
19	Univ. of Kansas	—	—	—	—	—	—	—	—	—	—
20	Univ. of Louisville	1	—	—	—	—	—	—	—	—	—
21	Louisiana State Univ.	2	1	1	—	24 C.P.	—	3, 4	+M.	—	—
22	Tulane Univ.	8	5	3	2	32	—	4	40+	—	—
23	Johns Hopkins Univ.	8	3	—	—	73	—	—	—	—	—
24	Univ. of Maryland	4	1	1	—	15 C.P.	—	—	—	—	—
25	Boston Univ.	2	2	—	—	6 M.	—	4	3, 4 M.	—	—
26	Harvard Univ.	9	4	5	2	10 C.P.	—	2	15 B.	—	72-144
27	Tufts College	2	2	—	—	80	—	—	—	—	—
28	Univ. of Michigan	1	1	—	—	—	—	—	—	—	—
29	Wayne Univ.	3	3	—	—	—	—	—	—	—	—
30	Univ. of Minnesota	2	2	1	1	4 B.	—	3, 4	6 M., P.M.	—	—
31	St. Louis Univ.	5	1	2	2	1 C.P.	—	3, 4	+M.	—	—
32	Washington Univ.	1	1	—	—	48	—	—	—	—	—
33	Cleveland Univ.	1	1	—	—	15	—	33	—	—	—
34	Univ. of Nebraska	1	1	—	—	44	—	—	—	—	—
35	Albany Medical College	1	—	1	1	17	—	3	+B., P.M.	—	—
36	Long Island Coll. of Med.	4	4	2	2	+C.P.	—	3	17	—	—
37	Univ. of Buffalo	—	—	—	—	86	—	—	—	—	—
38	Columbia Univ.	2	1	—	—	—	—	2	—	—	P.R.

TABLE 3.—(Continued)

No.	School	Number of Instructors with Special Training—			Hours of Instruction—			Tropical Medicine		
		Total	Parasitology		Yr.	Hrs.	Yr.	Hrs.	Yr.	Hrs.
			Academic	Practical						
39	Cornell Univ.	4	4	3	2	36	—	—	—	—
40	New York Medical College	4	4	1	2	48	—	—	—	—
41	New York Univ.	4	4	2	3	35	3	8 P.M.	—	—
42	Univ. of Rochester	2	2	—	2	72	4	2 P.M.	—	—
43	Syracuse Univ.	1	1	—	2	8	—	—	—	—
44	Duke Univ.	3	3	—	2	44	—	—	—	—
45	Univ. of Cincinnati	3	3	2	2	20	—	—	—	—
46	Western Reserve Univ.	3	3	—	2	26 C.P., B.	3, 4	+	3	P.R.
47	Ohio State Univ.	4	4	1	2	35	3	16 M.	—	—
48	Univ. of Oklahoma	3	3	—	2	—	—	—	—	—
49	Univ. of Oregon	—	—	—	2	18	—	—	—	—
50	Hahnemann Medical Coll.	—	—	—	1	—	4	+	+	P.M.
51	Jefferson Medical College	1	1	—	2	40	—	—	—	—
52	Temple Univ.	2	2	—	2	20	3, 4	—	—	—
53	Univ. of Pennsylvania	1	1	—	2	—	—	—	—	—
54	Woman's Medical College	1	1	—	2, 3, 4	25	—	—	—	—
55	Univ. of Pittsburgh	1	1	—	—	—	—	—	—	—
56	Med. Coll. of South Carolina	1	1	—	2	24 C.P.	3, 4	30	—	—
57	Univ. of Tennessee	1	1	—	2	—	3, 4	+	+	P.M.
58	McHerry Medical College	2	2	1	2	60	—	—	—	—
59	Vanderbilt Univ.	2	2	—	2	55	4	10 P.M.	—	—
60	Baylor Univ.	2	2	—	2	60	7	30	—	—
61	Univ. of Texas	5	3	2	2	36	3	16	—	—
62	Univ. of Vermont	—	—	—	2	16	3	9 P.M.	—	—
63	Univ. of Virginia	—	—	—	3	20	4	—	—	—
64	Medical College of Virginia	2	1	1	2	48	7	6 P.M.	—	—
65	Univ. of Wisconsin	—	—	—	2	—	3, 4	+	+	P.M.
66	Marquette Univ.	1	1	1	2	25	2	25	—	—
Two Year Schools										
67	Univ. of Alabama	—	—	—	1	—	—	—	—	—
68	Univ. of Mississippi	2	2	—	1	—	—	—	—	—
69	Univ. of Missouri	1	1	—	2	—	—	—	—	—
70	Dartmouth College	2	2	—	1	66	—	—	—	—
71	Univ. of North Carolina	1	1	—	2	22	—	—	—	—
72	Bowman Gray School of Med.	1	1	—	2	44	—	—	—	—
73	Univ. of North Dakota	—	—	—	—	—	—	—	—	—
74	Univ. of South Dakota	—	—	—	—	—	—	—	—	—
75	Univ. of Utah	—	—	—	—	—	—	—	—	—
76	West Virginia Univ.	—	—	—	—	—	—	—	—	—

Abbreviations.—Hours of Instruction: C.P.—Clinical Pathology; M.—Medicine; P.M.—Preventive Medicine; B.—Bacteriology; P.R.—Puerto Rico.

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DISCUSSION

CAPTAIN CHARLES S. STEPHENSON (U. S. Navy Medical Corps): Just why I should be on this program with so little preparation is a matter of great interest to me. I got my first inkling that I was going to be asked to speak a few minutes ago when Dean Davison asked if I would do so. He knew very well I had two other papers to get prepared and delivered. I assume I was put on for the purpose of needling all you fellows who are in the business of teaching. I have needled pretty nearly everybody else in the United States—scientists of all grades and descriptions—so I might just as well turn on you.

I am particularly pleased to see all the deans of the medical schools of the country here, because I want to rib all of you. You have done a lousy job of teaching or you would not be in the position you are in now. It is time you began to learn something about chaos physic instead of chaos politique. If you would only take just a little bit of a look at the geography as to what is going on in the world with reference to tropical diseases, I cannot understand how you would allow a situation of this sort to build up in the United States, or in any other place, for that matter.

You have had these medical schools that have been running a show that is good, bad, and some of them indifferent, but all of it is lousy with reference to the teaching of tropical medicine, and it is your own fault. You have had a whole mess of specialties being taught. Somebody comes along who is strong willed and he decides he has to have nineteen hours and fifteen minutes to teach some place else, or it will not be taught at all in that particular field, and neglects the thing that may cause a serious loss of manpower, or even delay the end of this war. I have particular reference to the question of malaria.

Malaria is the one disease, in my judgment, which can cause us to lose the war. We have had it in the United States for a long time. How much longer are we going to have it? This I should certainly like to predict: Many of you deans of medical schools situated in the Eastern and Northern section of the United States may find you are going to have your faces very red when the top-shot fellows in your faculties will not be able to diagnose a case of malaria. I hope some of you shake the slack out of yourselves, instead of some poor devil that ought to have been treated.

Here is the situation with reference to what you are going to be up against, and you are up against it right now. A few years ago a French destroyer carried *Anopheles gambia* into Brazil. I am not prepared to state exactly how much money was spent by the Rockefeller Foundation and the Brazilian government before *Anopheles gambia* was knocked out. I have recently come back from Rio de Janeiro where I had the opportunity of meeting with the Pan-American Sanitary Conference, and I thought I would have a chance to have a reconvening with my friend Fred Soper of the Rockefeller Foundation. I did not. Since 1939, he has been offering \$10 for a live *Anopheles gambia* mosquito. I went to two or three places and offered \$25 for a living *Anopheles gambia* mosquito, because it would have been worth ten times that much to have stuck one under his nose and say, "Here it is." I did not find one. He is actually talking about the question of species eradication. If he is as good with some of the rest of the *Anopheles* mosquitoes as he has been in Brazil with the *Anopheles gambia*, it is an effort which should intrigue the scientific background of every one of us. You may be interested to know that delegates of the South American republics are concerned over what may happen to them by the introduction of the *Anopheles gambia* or, what is even more disturbing to them, the introduction of the *Stegomyia* and *Aedes aegypti* into their city, where they have cleaned them out.

We can poke fingers of scorn and turn up our noses at what is going on in South America, but I get the kick of my life out of the resolution adopted that the North American colossus do something about its sanitation and not bring these mosquitoes and other pests back down into their country.

Here is what is going on: A lot of planes are moving all over the country, and a lot of very fine young pilots who are imbued with the spirit that they are the best on earth—and maybe they are—but they are not fumigating their planes as they should do. If they

re-introduce the *Gambia* into Brazil, and it will cost many million dollars to eradicate them, our faces ought to be red, and yours ought to be redder, because we have a lot of medical men sitting around these places who really do not know how to do a job of fumigating a ship.

The world-wide distribution of yellow fever should be of considerable interest to everybody. In the United States we have had epidemics of yellow fever in the memory of man, but we have this sort of sanitation going on: We have a considerable number of cities that are so-called cistern cities, in which the *Aedes* can multiply in huge quantities. Exactly how well those cities are policed and exactly how well these cisterns have been covered is a matter on which I have no competence, and on which I should have no opinion, but being one of those fellows who is constantly in the position of sticking his neck out, I am going to stick it out. I am perfectly certain, if you have yellow fever there, you would be frightened to death. I would be if I were one of those fellows who was asked, "When did you see yellow fever, and what are you going to do about it?"

Fortunately for us in this country we have developed yellow fever vaccine. The evidence is quite conclusive that we should be able to control any epidemic, and do it in a short period of time. How many of your faculty, teaching medicine, know that is in existence, and how many know what they can do about it, and how many would be in a position to go out and do a job that would be a credit in the field of teaching, much less the teaching of medicine?

With reference to preventive medicine you have schools of preventive medicine that are as stuffy as an owl. They have not done a thing about bringing this question up to date. If you go around to one of these schools of preventive medicine and try to get some recognition for what has been done, and get some credit for getting people to go into the schools, that might put a little leven in the loaf and get them going, but you cannot do it. You have academic flapdoodle until you could not cut it with a knife.

There is another disease that causes all of us in military circles no little concern, and that is bubonic plague. Bubonic plague exists all over the whole country, as far as North Dakota and the eastern boundary of the United States. Exactly how much further that is going, nobody knows, but at least I hope and trust that if we must have it spread, they will drop one live rat with a lot of fleas into Baltimore and scare the pants off the people in that town. It would do them a lot of good.

In South America they have not had outbreaks of plague that have been of sufficient severity or spread to cause concern on the part of the health officials and political scientists to whom they were reported. How much they have got, I do not know, but every man who attended the sanitary conference admitted that there is a little plague down there, but they will not tell you precisely how much.

We have got this sort of a job facing us. There will be, without any question of a doubt, severe rationing of foods in other places of the world than those we have heard about.

One rat destroys \$1 worth of food a year. That is a thing we simply cannot afford. How many of you in medical schools have taught your students that one rat will consume \$1 worth of food a year? If, as is estimated, there are 500 million rats in the United States, that just does not hang together. Whether we have 500 million rats or not is entirely beside the question, but you are constantly allowing houses to be built because medical students do not know that houses can be rat-proofed at very small cost, which would reduce the economic overload of having this rat feed at our expense.

What makes it particularly bad is that all these scientists have not done a thing about vaccines in a long time. You have three vaccines. I took one of them, and I was sick. I am not going to take any more until we have a better plague vaccine. I do not believe in attenuated live vaccines. I am not going to take them myself, and I am not going to recommend them to a gang of Navy people, unless they have to go into territories that I know are hyperendemic areas of plague and that there is the possibility of losing a lot of lives.

We need to get the lesson of this sort of thing thrown on the screen in our medical schools, and cut out some of the academic flapdoodle.

This is the geographic distribution of sylvatic plague in the United States. Exactly how far it will go, and how quickly, is a matter of conjecture. With planes flying from one side of the country to the other, and mice occasionally getting into planes, your imagination ought to be sufficient to draw up the things you are up against.

I think if we were in a position to have schools that would turn to and do a real job of enthusiastic teaching, either in the field of preventive medicine or of curative medicine, to the point where we would think in terms of species eradication, this sort of business ought to be cleared up. It should have been cleared up long ago, and I think it can be done and it ought to be done.

Another thing that shocks me is the distribution of public health activities in the United States. Most of you men who are teaching curative medicine have no interest in preventive medicine, and you have been sort of brakes on the wheels of progress. That does not reflect a great deal of credit and glory on any of us. They are not interested in filariasis. Most of them are not even interested in leishmaniasis. Schistosomiasis and trypanosomiasis are equally important.

This is a situation that ought not be forgotten. (Stenographic report; not revised by Captain Stephenson.)

COLONEL GEORGE R. CALLENDER (Medical Corps, U. S. Army): In the early papers this morning the problem of military medicine was very well covered by Dr. Lehman, and subjects enumerated by Dr. Berry sounded very much like those of the curriculum of the course in tropical and military medicine at the Army Medical School. Dr. Lehman, Dr. Berry and Dr. Meleney all emphasized the allotment of time to tropical medicine. This might be done by a different distribution of the available hours than you have been making in your curricula.

The trouble is that our interests have been elsewhere, and a proper balance has not occurred, nor have there been on the faculties, as Captain Stephenson emphasized, men who have any particular interest in these diseases which are actually among us and are also important.

For instance, you have pneumonia and heart disease on which a lot of time is spent. Malaria is mentioned only as an interesting subject, in spite of the millions of cases we have in the United States today.

To prepare persons to teach, and to re-allocate the time are two of the problems considered here today; as Dr. Meleney said, there are men who have had experience who are not being utilized. There are courses in tropical medicine in some of our medical schools which use additional facilities—the tropical islands, the Caribbean, and other places. Those are important, but now you are trying to change your curriculum to hit the fourth year students, the intern group, and the third year, who are past the time when they normally would be studying bacteria, parasites, and that sort of thing. It appears that those men are deficient in those laboratory subjects. When you get back to the second year, I agree thoroughly with Dr. Meleney that that is the place to put your emphasis in parasitic diseases, where you are better prepared to carry on, or can be prepared to carry on.

Visiting lectureships are stimulating and of value for we have too few experienced teachers to go around and actually present these subjects from actual experience in seeing the disease and in interpreting it and treating it.

However, there are still possibilities of the clinical men and the men who are going to teach the laboratory subjects obtaining assistance in some of the schools in this country. The Army Medical School curriculum is now approximately 300 hours long over an 8-week period and about three-fourths of the hours are in tropical medicine. Emphasis is placed on more important diseases. As an example, over one-sixth of the

total 300 hours is spent in a study of malaria, methods of prevention and methods of treatment. That gives you some idea of the emphasis or change of emphasis that appears necessary in a postgraduate group, and which might well be reflected in the undergraduate group.

What is our objective, and what is our need?

Captain Stephenson has presented the problem as a whole much better than I could and he has given you the geographical distribution, and the possible changes in geographical distribution of the diseases which we call tropical.

Our objective in the military service—with quite a number of relatively large units, but not quite so much dispersion as the Navy—is that no medical unit shall leave this country without a man trained in the course in tropical medicine as we are giving it in the Army Medical School unless, by chance, he has already been trained by experience in other areas. Even those men are coming to the school, for a refresher course. A visiting group of civilian lecturers constitute an important part of our faculty. These were selected as a result of the advice of the Sub-Committee on Tropical Medicine of the National Research Council, of which Dr. Meleney is chairman. I would like to say also, at this time, that this committee was vital in starting this course, in giving us the backing we needed, and in assisting in the formation of a curriculum.

These courses at the school are intended, in the course of the next year, to fill the objective of one man per unit. We have about 300 graduates already, but the dispersion has been great. Not all areas are covered, but they will be before long. These courses, I hope, can be made available for those who are going to teach in the undergraduate schools, and that other facilities, especially in the parasitological field, may be available to help out those of you who want to utilize it.

DR. J. A. CURRAN (Long Island College of Medicine): We all realize that our teaching of tropical medicine, up to the present, has been largely based on the assumption that most of our graduates would not be dealing with tropical diseases. I think we are convinced now that the reverse will be the case in the future, certainly during the period of the war and for a long time thereafter. We must prepare our graduates—all of them—to deal with these problems.

Two suggestions might be made as to teaching possibilities. One suggestion is that a faculty committee be organized, including such men as the professors of medicine, gastroenterology, surgery, pediatrics, dermatology, preventive medicine, bacteriology, clinical pathology, parasitology, to determine how much of tropical medicine should be taught in connection with the regular courses. We all realize it has been very much disconnected and broken up in the past, and very poorly related. An early gain from this type of coordination would be the elimination of reduplication of effort. Some years ago I was teaching tropical medicine to undergraduates, and discovered there was conflict and overlapping with instruction being given in parasitology and gastroenterology by other members of the faculty.

The other suggestion is the possibility of using the symposium method, particularly covering the needs of the fourth-year students and the interns. During previous years it has been our custom to give all day symposia to third year students in such subjects as tumors, tuberculosis and syphilis. This year we intend to experiment with a symposium on tropical medicine, to which we will invite our students, interns and members of the attending staff. We hope to cover the following topics: Dysenteries, malaria, yellow fever, helmet infestations, and personal hygiene in the tropics. This will be merely touching the high points but will be helpful in giving our students a comprehensive picture. The teaching will be given by faculty members and visiting lecturers.

As to the matter of lease-lend, our school is on the waterfront and the waterfront and the bringing in of various types of tropical diseases is a common occurrence, but

still we have had difficulty getting a sufficiently wide variety of teaching material. We would welcome the possibility of a central distributing center.

As to personnel, we have also had our difficulties. We lost our parasitologist to the graduate school of Tulane, but they have repaid that debt by giving one of our staff advance work in the field, and he will carry on the work in the future.

I was very much impressed with the map Captain Stephenson showed us of the distribution of tropical medicine throughout the world. Too often in the past the trouble has been that we have not had any adequate realization of the seriousness and extent of the problem. As one who went out to the Far East some years ago, with the type of education given the average student in our medical schools and in our hospitals in the past, I know from painful experience how many heartaches one has in not being adequately prepared to deal with the situations confronted. I have a special feeling of gratitude to the Peiping Union Medical College for the help I received in remedying the deficiencies in my education.

I am hopeful that all this renewed interest in tropical medicine aroused by the war will at least result in an adequate program of graduate education in this country. That has been the most conspicuous difference between the United States, Canada and Europe. While, for years, there have been fine graduate schools in London, Liverpool, Hamburg, and in India, there have been none in this hemisphere. We have had departments, but there have been no adequate graduate courses. For that reason alone, we have been poorly equipped to meet the present situation, and are perhaps worthy of the rebuke Captain Stephenson handed to us in his salvo.

DR. FRANCIS S. SMYTH (University of California Medical School): One of the discussants said there were two types of program, the immediate and the future. I cannot boast that we have gotten very far with getting the material, although the Marine Hospital in San Francisco has been very courteous in cooperating with us, but I think they are still pioneering and have a long way to go.

DR. HIRAM W. KOSTMAYER (Tulane University): We have emphasized tropical medicine at Tulane for some years. Due largely to the generosity of the Rockefeller Foundation, we have been able to broaden our department very considerably as to physical equipment and as to personnel. I seriously believe we could take on a group of instructors from medical schools and do an excellent job of preparing them to teach tropical medicine in their schools, both for the immediate plan of teaching seniors and interns something of this branch, and for the long range plan of ultimately making tropical medicine a dignified branch of each curriculum. I say without undue pride that I believe we can do this, because we have done it. We have had instructors from departments of medicine in several medical schools come and stay with us, some for only two months, and some for six months. They have done us the credit to say that at the end of their stay they felt qualified to take on the teaching of this branch on their return home.

I believe, whether or not Tulane plays a part in this program, whether or not the Army Medical School can take it all on, both from the clinical and parasitological points of view, immediate consideration and immediate action ought to be taken. We cannot begin such a course at Tulane until February 1, because we are occupied with a course for Latin-American physicians. If present seniors are going to be Army and Navy surgeons two years from now, they ought to have a course in applied tropical medicine soon. If this year's juniors are going to be Army and Navy medical men in practically three years from now, their work ought to begin now. So, I urge something practical and immediate out of this discussion.

DR. CHAUNCEY D. LEAKE (University of Texas Medical School): I am not at all sure but that a vigorous offensive is not the best kind of defense. It may be that

the Navy is a little bit on the defensive in this point. I am thinking of the fact that not so many years ago the late Earl McKinley made a vigorous plea for what he called geographical medicine, and I am not aware that he had a very hearty response from the armed services at that time. There are others of us who also raised our voices in that respect. There are also available large numbers of men, in parts of the country with which I am familiar, who certainly have not been utilized in the way they might have been for this very important matter.

But with respect to our immediate problem, I think we are well aware of its importance and what we should do about it. On long range planning, it seems to me we should take a still broader view. Names are important. I think it is unwise to limit our consideration to what we still call "tropical diseases." It is trite to say we are fighting a world war. We are going to have our men throughout the world for many years after whatever we call the peace may come. We are going to have to maintain those men all over the world, in the arctic regions as well as in the tropics. I think it is wise for us to consider the proposition of geographical medicine; the broad influence of climate with respect to health and disease, for the maintenance of health in various climatic areas and for the prevention of diseases in these areas; for the handling of the particular and peculiar types of disease that occur in different parts of the world.

It seems to me that this admirable report could be expanded to include at least a paragraph for the consideration of the geographical factors associated with disease, so that the whole subject of parasitic diseases and tropical diseases might come under a broad field that we might call geographical medicine.

DR. C. SIDNEY BURWELL (Harvard University): I wish to make only one or two points about the very interesting report of Dr. Meleney and his committee. We have two assignments in the teaching of tropical medicine: An immediate one, which is to supply to our fourth year men, and interns in the hospitals, a course in tropical medicine which will give them some equipment for the work they are about to face. This course should not be mixed up with a more permanent plan for the improvement of tropical medicine teaching in the medical schools of the United States.

A sensible plan would be to establish in the fourth year as much time as can be assigned for the presentation of a practical, applied course, set up in terms of diseases and devoted to a consideration of their recognition, their prevention and their treatment. It should deal very specifically with details of such things as the chemotherapy of malaria. It should not attempt to be a fundamental course. You should take your students where they are, and do the best you can. At the same time, today is a good time to begin to plan for a better organization of the teaching of tropical medicine for the future, and when we come to that problem, I think we are dealing with the report which Dr. Meleney's committee really made.

The program of a fundamental course in the second year, followed by appropriate clinical opportunities in the third and fourth years, seems to me to be sound. I would like to see more emphasis placed on the relation between these two than was apparently presented in the committee's report.

One more point. "Tropical Medicine," as I understand it, deals not only with problems more or less peculiar to the tropics but also with matters that are of great concern in temperate climates. Tuberculosis, for example, is of enormous importance in the tropics. Therefore, it is essential that men who are to deal with the problems of medicine in the tropics should, first of all, be good doctors, broadly trained.

It is very fortunate that the Association has had a committee which, by its own experience, has had contact with many fields of medicine.

Only one other point. Dr. Meleney made a practical suggestion about materials. I think the lease-lend plan for ascaris eggs is excellent.

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*Recommendations Adopted by the
Association of American Medical
Colleges at the Annual Meeting
Held in October, 1942*

The following recommendations were adopted by the Association of American Medical Colleges at the annual meeting held in October, 1942. Most of these recommendations deal with the national defense program. They indicate how medical colleges can and will function as a part of this program and what assistance they need from the Federal authorities to carry on effectively.

Revise admission requirements—The Association, recognizing the urgency of the war emergency, recommends that member colleges revise their admission requirements for the duration of the war so as to admit students who present the minimum admission requirements of this Association which consist of two years (four semesters or six trimesters) of college work, including English, theoretical and practical courses in physics, biology, general and organic chemistry, completed in institutions approved by accrediting agencies acceptable to the Executive Council of this Association.

It is the judgment of the Association that students cannot be prepared adequately to meet the modern requirements of medical education with less than this minimum preparation.

Maintenance of adequate qualified medical faculties—It is recommended by this Association that the Directing Board of Procurement and Assignment Service request all chairmen of state committees of Procurement and Assignment Service to cooperate fully with the deans of medical schools in maintaining qualified medical faculties to ensure the continued production of an adequate number of

properly trained medical officers and physicians for the needs of the country.

Reports from a number of medical colleges indicate that their faculties have been depleted to a point which will not permit the maintenance of proper standards of medical education.

Maintenance of medical college functioning—Since medical colleges are the only source of supply of physicians, the Executive Council has recommended for immediate action to the Surgeon General of the Army, the Surgeon General of the Navy, General Hershey of the Selective Service System, the War Manpower Commission, the Assistant Secretary of the Navy and the Assistant Secretary of War that the Association of American Medical Colleges urges that provision be made to maintain essential teachers in medical school faculties, that students in medical schools be permitted to complete their professional education and provision be made for an adequate supply of premedical students.

In order to do this, the information on file in the office and all of the facilities of the Association of American Medical Colleges have been made available to all appropriate government agencies.

Graduate Education—The Executive Council stresses the importance of continuing the graduate education of selected men in the various fields of medicine as residents to assist in teaching medical students to meet the needs of the armed forces and the civilian population. It is essential that selected physicians be given the opportunity of training beyond the internship.

Deferment of premedical students—The Executive Council calls attention to the action taken at the special meeting held in Chicago, February 14, 1942,

"that the Deans do not support requests for deferment of premedical students for more than twelve months preceding enrollment in a medical school." Because of changes made in the operation of medical schools to a nine months basis, it is urged that deferment be asked or that support of application for commission be made only for those students who will be enrolled in the next entering class.

The Executive Council recommends that hereafter no commitment be made to any applicant for admission beyond the next incoming class.

Exchange of instructors—Inasmuch as the depletion of medical faculties is making it difficult for certain medical schools to maintain satisfactory teaching standards particularly under the accelerated program, the Executive Council suggests that the member colleges of the Association cooperate with each other in making satisfactory adjustments to meet this situation. It is recommended that the Secretary of the Association be authorized to solicit information from medical schools as to critical shortages in their faculties and as to qualified teachers who are listed as available with Procurement and Assignment Service and who might be utilized to fill positions in other medical schools during the war emergency.

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Minimum Entrance Requirements

The action taken by the Association of American Medical Colleges at its annual meeting held in Louisville last October with regard to entrance requirements did not imply a lowering of present standards. The regulation of the Association calls for two years of college work with prescription in chemistry, biology, physics and English. Most medical colleges have exacted entrance requirements higher than the minimum prescribed by the Association.

Since it is possible, and it has been so indicated that the government will not permit attendance at college for more than two years—with subject prescription for students seeking admission to

certain professional studies—including medicine—the Association urged on all its member colleges to consider revision of their present requirements to meet the minimum set by the Association—during the war. This recommendation removes the possibility of any medical college which meets this standard being considered as having lowered its published requirements and, possibly, losing approval or membership in the Association. In no way does this recommendation imply any lowering of present minimum standards.

It is unlikely that the entering class of March, 1943, or even the class of November, 1943, will be affected by this action—if it must be taken. The matter is still under discussion in Washington. Very recent reports indicate that, for medicine, at least, three years of college work may be permitted, in fact, advised strongly. The final plans which government will make are not known at the time this is written.

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Applicants for 1942

Freshman Class

Since 1926, the Association of American Medical Colleges has made a study of applicants for admission to medical colleges in the United States and the number of applications made by them, plus the action taken and if this was a refusal, the reason therefore. This study has been published annually in the *Journal of the Association of American Medical Colleges*.

Because of the war, the study applying to the freshman class admitted to medical college since June, 1942, to October, 1942, is very interesting. Naturally, the first question asked is, "Were there more applicants than in the preceding years?" Since 1941, all medical colleges have accepted more students than they did for some years previously in order to meet the demand for more medical officers for government services. The freshman class of 1941 numbered nearly 10 per cent more than the freshman class of 1940. On the basis of reports received from the medical col-

leges, it is safe to say that the 1942 class will outnumber the 1941 class by about 100 students.

Although the analysis and study of the application cards received from medical colleges for the present freshman class is not completed, some data are available. More applications were made in 1942 than in 1941: 44,179 as against 34,655, an increase of nearly 20 per cent. In 1941 there were 11,940 applicants; in 1942 there were 14,056 applicants, an increase of approximately 16.0 per cent. Despite this increase in the number of applicants, medical colleges did not accept many more students than in 1941, probably not more than 1.5 per cent. The facilities of medical colleges are strained to the limit—if adequacy of instruction is to be maintained in order to ensure an output of able and competent medical men and women. Physical facilities, too, must be considered. Furthermore, by maintaining present standards of medical education it is possible to accept only a certain number of applicants. These considerations have been observed by all the medical colleges. It is not possible, at the moment, to give the number of applicants who made only one application and those who made more than one application. These figures will be given later. However, it is interesting to note that there were 2,116 additional applicants and that 9,524 more applications were made in 1942 than in 1941.

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Graduates of 1942

The medical colleges (67) of the United States reported having graduated 5,156 students, an increase of 96 over 1941. This figure includes students who graduated in 1942 after July 1st. The freshman class of 1938 numbered 5,811 students. Only 4,495 of these students, or 77.4 per cent, graduated in 1942, a loss of 22.6 per cent. Some of the 1942 graduates (2) entered as early as 1929. The total number of students who began the study of medicine prior to 1938 was 611; 50 graduates completed their work in three

years, entering medical school in 1939. Those graduates who began their studies prior to 1938 had dropped out of school for various reasons, many of them returning as repeaters having failed of promotion. A few returned to the arts college for additional preparation; some repeaters had difficulty in being readmitted and lost time.

The interesting fact shown by these figures is the comparatively large number of students who enter medical college but do not graduate. This occurs every year and warrants the statement that almost 25.0 per cent of every entering class fails to graduate. It is a safe basis for estimation of how many students in every entering class will not graduate—but it must be kept in mind that some of these failures return later and finally do graduate although not with their original class. It still leaves the percentage of total failures high.

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University of Georgia School of Medicine

At the annual meeting of the Association held in October, this School was placed on probation. The improvements made in recent years, it was felt, were such as to warrant this action rather than to drop the school from membership, as had been contemplated. This action was not a reflection on the school but a protest against the actions of the governor of Georgia which endangered the effectiveness of the entire University System of Georgia in its relationship to higher education. No doubt the removal of the governor from office as the result of recent political action will bring about an entirely different state of affairs in this field and warrant reconsideration of the probation status at an early date.

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University of Texas School of Medicine

At the annual meeting of the Association of American Medical Colleges, this school was placed on probation. This action was based on two inspections made by officers of the Association who

found disorganization and dissension among the faculty because of actions taken by the then administration of the school. Recently a new dean was appointed, Dr. Chauncey D. Leake, the well known pharmacologist until recently professor of pharmacology in the University of California School of Medicine. Dr. Leake has already succeeded in effecting many desirable changes and will no doubt soon bring conditions to the point where the school can be removed from its probationary status. The facilities, both in personnel and materially, are such that this school can become an outstanding medical school. The Association has offered its assistance to Dr. Leake in carrying out his plans.

The Council on Medical Education and Hospitals of the American Medical Association has also placed the school on probation after having made an inspection earlier in the year. The results of this inspection concurred with those reported by the inspectors of this Association.

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Dr. Winfield Scott Hall

We regret to announce the death of Dr. Winfield Scott Hall, professor of physiology in Northwestern University Medical School, 1895 to 1919. Dr. Hall was elected secretary of the Association of American Medical Colleges at the Saratoga Springs meeting in 1902 but did not function as the appointment was made without his consent. The present secretary, Dr. Fred C. Zapffe, served as acting secretary during that year.

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Teaching of Tropical Medicine

A special committee of the Association of American Medical Colleges, consisting of Dr. Henry E. Meleney, New York University, chairman, Dr. Hiram W. Kostmayer, Tulane University and Dr. Malcolm J. Soule, University of Michigan, is working on plans to improve the teaching of tropical medicine in medical colleges. These plans envision special training for qualified men

through courses in tropical medicine given by the Army Medical School, the Navy Medical School and Tulane University of Louisiana School of Medicine. The personnel will be selected by the deans of interested medical colleges and will be remunerated for travel expenses and given a maintenance allowance. At the conclusion of the courses attended, these men will return to their respective medical colleges and set up courses in tropical medicine and parasitology for undergraduate medical students. The John and Mary R. Markle Foundation has made a grant of \$25,000 to meet the cost of the proposed plan.

* *

Competition for Interns

An editorial in *Hospitals*, December, 1942, p. 68, discusses this topic in a clear manner. It is well worth reading. The suggestion that medical colleges, approval bodies and hospitals take joint action to solve the problems presented is not only timely but offers a solution as to how the number of available graduates can be fitted into an equally available number of worth while internships. Medical colleges have long known, as a result of many years of experience, that not all approved internships can be considered as being educational in the sense of a continuance of the education provided by medical colleges, i. e., on a university basis. The Association of American Medical Colleges, three years ago, set up a Committee on Internships whose personnel consisted of deans of medical colleges. The country was divided into eight regions with a chairman for each region. The chairman called to his assistance the deans of the medical colleges located in his region. These deans each furnished a list of hospitals whose internships they regarded as being acceptable on the basis of continuance of education. It was planned that the deans of all the medical colleges in membership in the Association would receive a copy of a composite list covering the country as an aid in advising their graduates which internships will provide them with what they should have educationally

rather than as a professional experience. That list is in preparation and will soon be available.

The editorial in *Hospitals* is reproduced herewith.

"An evil that is growing rapidly and may soon be out of bounds is the competition of hospitals for the services of interns. No remedial action has been taken nor suggested. The demand for the services of interns has for many years greatly exceeded the available supply. Hospitals of small bed capacities, 100 beds and less, offering exceptional supplies of clinical material and staffed by many medical men who are good teachers, and—of more importance to the intern—who possess a desire to teach, demonstrate and train, are not approved for intern service. The intern would benefit more from his service in institutions like these. He would come into more intimate professional contact with the patient, under the supervision of a member of the staff, than he ever would in a hospital of 3,000 beds having 300 interns and a large number of chronic, convalescent or ambulatory patients.

"Yet so many of these institutions with such superior intern service available find it difficult, if indeed at all possible, to secure interns, except by offering a remuneration considerably out of line with the value of the service to the hospital. The increasing dependence of the hospital staff on the interns, for many services they formerly performed themselves, compel these hospitals to compete with other hospitals often in the same city or area. The vicious circle thus created has widened constantly.

"A contributory factor in creating and continuing this practice is distribution of the intern supply, without any order or control. Each approved hospital secures as many interns as are in too many instances their maximum needs. Smaller hospitals are deprived of any intern service whatever, unless engaged on a salary basis and in competition with hospitals that can pay as much or more. The medical colleges, the approval bodies, and the hospitals themselves could by

joint action do much to remedy this situation.

"The theory of intern service is that it is a continuing education program. The intern in the hospital, if the service is worth while, is taught to apply at the patient's bedside the practice and theory which he was taught didactically in his college courses. To him this year is, as it should be, the most valuable year in his student experience. From the teaching he receives, the experience he gains, he receives a greater lasting benefit than any financial return that may come with his intern appointment.

"The present situation, almost hopeless as it is, has influenced the applicant for intern appointment to place more emphasis on the pay he receives than the training and education he expects to receive. It was different a few years back when hospitals did not have to compete with other hospitals on the basis of salary paid. Much of the confusion could be eliminated and order could be established out of the existing chaos if there could be a tri-party agreement that the allowance to the intern during his service be stabilized at a reasonable monthly amount. That this allowance be not considered as a salary, a wage, or an honorarium.

The competition for interns, purely upon the basis of salary, is ruinous to the hospitals, destroys the morale of the intern, and cheapens the educational effort of the member of the staff who is conscientious in his desire to make the intern's year of the greatest possible value to his professional future."

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Emergency Licensure

At a joint meeting of the Executive Committee, Federation of State Medical Boards of the United States and the Directing Board of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians of the War Manpower Commission, on December 6, 1942, in Washington, D. C., the following draft of proposed legislation and

statement of principles was drawn up and approved.

BE IT ENACTED . . .

Section 1. *Purpose.* A serious public emergency exists or may exist in this State because of the demands of the armed services for physicians and dentists. Cooperation on the part of the State, with certain Federal agencies, such as the Procurement and Assignment Service for Physicians, Dentists, and Veterinarians of the War Manpower Commission is imperative, so that temporary relocation of physicians and dentists may be accomplished, to overcome acute shortages in specific localities from time to time. For the protection of the people of the State, power to provide for the temporary admission to practice in the State of physicians and dentists, licensed as such outside the State, is hereby conferred upon the State Board of Medical Registration and Education* and the State Board of Dental Registration and Education* upon conditions and under regulations prescribed by them.

Section 2. *Power to provide for the temporary admission to practice medicine and dentistry in the State.* To accomplish the purpose set forth in Section 1, and notwithstanding any inconsistent provision of law, the State Boards of Registration and Education in Medicine and Dentistry* shall have power by general regulation or specific orders, to issue temporary emergency certificates to such physicians and dentists, licensed as such outside the State, as they shall find qualified to practice as such in the State during such emergency. The holder of any such temporary certificate shall be privileged during the term specified therein, unless sooner revoked, to practice his profession within the State subject, however, to all laws of the State generally applicable to the practice of such profession and to such regulations, restrictions, and area limitations as the State Boards* may make or impose as to them or any of them and their practice within the State.

*Substitute appropriate licensing agency or group existing in your State.

College News

New York University College of Medicine

FACULTY CHANGES: Dr. Charles Hendee Smith, professor of pediatrics was appointed professor emeritus; Dr. S. Bernard Wortis, was appointed the Lucius N. Littauer Professor of Psychiatry and Director of the Psychiatric Division of Bellevue Hospital.

APPOINTMENTS: Dr. Mark Hancock Adams, assistant professor of bacteriology; Dr. W. Guernsey Frey, Jr. and Dr. Frank C. Keil, assistant clinical professor of ophthalmology; Dr. Chester William Hampel, visiting professor of physiology; Dr. Theodore Rosenthal, assistant professor of preventive medicine; Dr. John Dennis Cooney and Dr. Herbert M. Ill, associate clinical professor of urology.

PROMOTIONS: Dr. Joseph Pick, from instructor of anatomy to assistant professor of anatomy; Dr. Timothy J. Riordan, from assistant clinical professor of dermatology and syphilology to associate clinical professor of dermatology and syphilology; Dr. Maurice Costello and Dr. William Director, from instructor of dermatology and syphilology, to assistant clinical professor of dermatology and syphilology.

Dr. James A. Shannon, from assistant professor of medicine to associate professor of medicine; Dr. Robert Goodhart and Dr. Charles E. Kossmann, from instructor of medicine to assistant professor of medicine. Drs. Goodhart and Kossmann are at present on leave of absence for military service. Dr. Harry Most, from instructor in clinical pathology to assistant professor of clinical pathology; Dr. Joseph Bunim, from instructor of medicine to assistant professor of clinical medicine; Dr. Morris Bender, from instructor of neurology to assistant professor of neurology; Dr. Conrad Berens, from associate professor of ophthalmology to professor of ophthalmology; Dr. John C. McCauley, Jr., from

assistant professor of orthopedic surgery to associate professor of clinical orthopedic surgery; Dr. William A. Walker, from assistant clinical professor of orthopedic surgery to associate clinical professor of orthopedic surgery; Dr. Ernest W. Bergmann, from instructor of orthopedic surgery to assistant clinical professor of orthopedic surgery; Dr. David Goldstein and Dr. Harry Most, from instructor of preventive medicine to assistant professor of preventive medicine; Dr. Morris Herman, from assistant clinical professor of psychiatry to assistant professor of psychiatry; Dr. Charles Gottlieb, from assistant professor of radiology to professor of clinical radiology and acting head of the department of radiology; Dr. Harry A. D. O'Connor, from assistant clinical professor of surgery to assistant professor of clinical surgery. Dr. O'Connor is at present on leave of absence for military service.

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Harvard Medical School

Dr. Joseph S. Lichty, Shaker Heights, Ohio, of the Cleveland Trust Company has been appointed assistant dean of the faculty of medicine at Harvard University and assistant professor of medical administration. Dr. Franklin F. Synder, Chicago, has been appointed associate professor of anatomy and obstetrics at the medical school. Frederick J. Stare, Ph.D., Madison, Wis., has been appointed assistant professor of nutrition, which is reported to be a new title connecting the clinical and laboratory branches of nutritional science. Dr. Stare will work both in the laboratory and in the field in connection with the medical school and the school of public health. Henry P. Treffers, Ph.D., an immunochemist, has been named to a new title at Harvard, that of assistant professor of comparative pathology and biologic chemistry. A new office, known as "Medical School Research Labora-

tories," has been organized in the medical school under Mr. U. Haskell Crocker. The object is to coordinate and centralize the business details of the various research projects in progress in the medical school, operating under contract with the office of scientific research and development.

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*Stanford University
School of Medicine*

Dr. Harold Phillips Hill, clinical professor of medicine, has been made professor emeritus. Full professorships have been granted to Dr. Victor E. Hall in physiology; John Field II, Ph.D., in physiology, and Dr. Charles E. Smith in public health and preventive medicine.

Dr. Thomas Addis, professor of medicine, has been awarded the Cullen Prize by the Royal College of Physicians in Edinburgh for "the greatest benefit done to practical medicine in the last four years." Dr. Addis, whose research has included extensive study on the kidney, is a native of Edinburgh and a member of the Royal College of Physicians.

The Josiah Macy, Jr., Foundation, New York, recently gave \$4,000 to Stanford University to aid studies in tropical diseases. Other recent grants for the same research include \$850 from the Carnegie Corporation of New York; \$400 from the National Academy of Sciences and \$200 from the May Esther Bedford Fund, Inc., of Connecticut. Other subscribers to this cooperative project at Stanford are the Higher Studies Fund at Oxford, the British Association for the Advancement of Science, the Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation, New York, and the Viking Fund, Inc., New York. Edward P. Mumford, M.Sc., research associate, biology, is directing the project, which is an investigation of the geographic distribution of insects and other disease carriers and of the parasites of man in relation to the war and its aftermath. The study is being made with specific emphasis on the Pacific Islands, with which Mr. Mumford has been concerned in his research at Stanford since 1939.

*Cornell University
Medical College*

Of the total staff of 512, who were listed in the 1942-43 college announcement, 134, or 24 per cent, are now in the Army or Navy. Thirteen per cent of the teaching personnel of the preclinical departments have entered service, and 27 per cent of the clinical departments. Surgery lost 42.5 per cent and medicine 36 per cent. Dr. William Dock, professor of pathology, left September 10 for Camp Young in Indio, California. He received his commission as Major in the U. S. Army Medical Corps at the desert training center, Camp Young. Dr. Eugene L. Opie, who retired in July, 1941, as professor of pathology, has returned to the active direction of the department during Dr. Dock's absence. Dr. Opie will continue research studies he has been conducting at Rockefeller Institute since his retirement. Dr. Eugene F. DuBois, professor of physiology, is a captain in the Medical Corps, U.S.N.R., and will start on a two and one-half month tour of duty in connection with aviation medicine. As his assignment to active service is temporary, he is expected to resume his teaching in January.

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*George Washington University
School of Medicine*

A lecture in the Smith-Reed-Russell series was given November 13, 1942, by Dr. Edwin I. Salisbury, assistant medical director, United Fruit Company. The title: "Chemotherapy in Malaria."

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*Loyola University
School of Medicine*

Dr. Dorothy Z. E. McDonald, Madison, advisory physician in school health education of the bureau of maternal and child health of the state board of health of Wisconsin has resigned to become vice chairman of the department of public health.

Dr. Kleinschmitt, head of the department, has resigned to become health commissioner of the City of Toledo, Ohio.

*University of Michigan
Medical School*

Malcolm H. Soule, Sc.D., professor and head of the department of bacteriology and director of the Hygienic Laboratory, has been on leave of absence since September. He was consultant to the director of the division of health and sanitation, coordinator of Inter-American Affairs at the Pan American Sanitary Conference in Rio de Janeiro, September 7-17, and will remain in South America until the end of November investigating the activities of the division in that continent. Dr. Udo J. Wile, professor of dermatology and syphilology and chairman of the department, has been given a year's leave of absence to enable him to accept a commission as colonel in the U. S. Army. He will serve as medical director in charge of venereal disease control in the U. S. Public Health Service.

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*University of Virginia
Department of Medicine*

Two gifts by anonymous donors have recently been made to the William James Rucker Convalescent Home for Children, one of \$750 and another of \$200.

October 19th, Dr. C. P. Rhoads of Memorial Hospital in New York gave the third annual lecture of the Alpha Eta Chapter of Phi Beta Pi. He spoke on "Diet and Experimental Cancer Production."

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*Northwestern University
Medical School*

Dr. Elmer J. Hagens, a practicing physician for more than 50 years, has contributed \$5,000 to Northwestern University to further medical research.

An amount of \$5,000 was awarded by Mr. James S. Kemper to subsidize fellows at the medical school to be trained in general surgery with special emphasis on industrial phases. The recipients of these fellowships are to have their training in the various hospitals affiliated with the University and the

dispensary and laboratories in the Montgomery Ward Building.

Dr. William F. Windle, formerly professor of microscopic anatomy, has been appointed professor of neurology and Director of the Neurological Institute to succeed the late Dr. Stephen W. Ranson. Dr. Windle's position as professor of microscopic anatomy has been taken by Dr. Horace W. Magoun, formerly associate professor of neuro-anatomy. Other advancements include Dr. Barry J. Anson, formerly associate professor of anatomy to professor of anatomy and Dr. Paul B. Magnuson, formerly associate professor of surgery to professor of Bone and Joint Surgery and chairman of that department.

Dr. A. C. Ivy, professor of physiology, is on leave of absence. He has been appointed Scientific Director of the Naval Medical Research Institute, Bethesda, Maryland.

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*University of Texas
School of Medicine*

The M. D. Anderson Foundation, Houston, which is financing with the state the development of the Texas State Cancer Hospital and Research Laboratories, has added to the staff of the new project J. K. Kline, Ph.D., and Fritz Schlenk, Ph.D., associate and assistant professor, respectively, of preventive medicine and public health at the University of Texas Medical Branch, Galveston. Dr. Kline worked with Robert Williams, D.Sc., on the synthesis of thiamine (vitamin B₁) and has recently been engaged in cancer research in Galveston. Dr. Schlenk was engaged in enzyme research in Stockholm before the war and has since been conducting nutritional studies relating to disease at Galveston. Collaboration is being arranged between the new cancer hospital in Houston and the institute of biochemistry at the University of Texas, Austin. A tumor clinic has been established at the John Sealy Hospital of the University of Texas, Galveston, to cooperate with the Houston institution.

The faculty has agreed to discontinue

the department of legal and cultural medicine, established in 1940 in the effort to administer as a single unit the library, social service, medical illustration and hospital record room. The library has been restored to independent status, and social service, medical illustration and hospital records were placed under the hospital administration. The faculty also abolished the stenographic and technical bureaus and restored secretaries and technicians to various departments as needed. Dr. Carl A. Nau, formerly director of the industrial hygiene division of the state department of health, Austin, and professor of physiology in the school, has been appointed professor of preventive medicine and public health at the university.

Special exercises for the Semi-Centennial graduation exercises were held December 18, 1942. Many invited guests participated. Honor guests were Drs. Edward Randall, professor of therapeutics, emeritus, and Seth M. Morris, professor of ophthalmology, emeritus, the only two living members of the original faculty.

Dr. Chester N. Frazier has been appointed professor of dermatology and syphilology. For twenty years, Dr. Frazier was connected with the Peiping Union Medical College. More recently he has been engaged in venereal disease control work at the Johns Hopkins University School of Public Health.

Dr. Owen H. Wangenstein, professor of surgery in the University of Minnesota, delivered the annual Alpha Omega Alpha lecture. Dr. Meyer Weiner, professor of ophthalmology, emeritus, Washington University School of Medicine, delivered a lecture on the management of war injuries of the eye. The Hogg Foundation of the University of Texas, under the direction of Dr. Robert L. Sutherland, is arranging for a series of lectures on mental hygiene. Other speakers were Dr. Tom Alfred Williams (Edin.), Dr. L. D. Mira, formerly professor of psychiatry at Madrid, Dr. C. Charles Burlingame, psychiatrist-in-chief at the Neuro-Psychiatric Institute, Hartford, Connecti-

cut, and Franklin G. Ebaugh, Lt. Col. U. S. Army and professor of psychiatry in the University of Colorado.

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Medical College of the State of South Carolina

Because of the desire and interest of the Alumni Association, the Medical College presented a "Refresher Course" that took place on November 4 and 5 with an attendance numbering over 50 physicians, exclusive of the Charleston doctors and those connected with some branch of the army or navy located near the city. Among the speakers for the occasion were Dr. John B. Youmans, Major George K. Lewis and Captain Alfred J. Suraci, U.S.A., Colonel W. W. Vaughan, Captain Edward H. H. Old, Dr. L. E. Holt, Dr. Wm. B. Porter and Dr. Reginald Fitz. The course coincided with Founder's Day which was celebrated by a "literary luncheon" held in the Library on November 4, and on Thursday, November 5, the Founder's Day banquet took place. Dr. Howard Karsner, Professor of Pathology at Western Reserve University was the guest speaker.

Morris Belkin, Ph.D., Yale, has been appointed instructor in pharmacology. Dr. John A. Siegling has joined the staff in orthopedic surgery.

Dr. Wm. C. O'Driscoll has been promoted to associate professor of anatomy.

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Baylor University School of Medicine

An agreement between the Southwestern Medical Foundation and Baylor University to set up a medical center in Dallas was recently approved at a special meeting of the Baptist General Convention. Under a ninety-nine year contract the medical and dental schools of the University will be moved, as soon as buildings are provided, to a tract of 35 acres along Hines Boulevard and including Parkland Hospital. Under the contract one million dollars will be expended by the foundation for a building

for medical teaching, construction to start within a period of not less than two years after removal of priority restrictions. In addition to providing the money for buildings, the foundation will also furnish money for teaching.

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*Washington University
School of Medicine*

Dr. Edwin F. Gildea, formerly associate professor of psychiatry at Yale University School of Medicine, is now professor of psychiatry and administrative head of the department of neuropsychiatry. Dr. Gildea graduated at Harvard Medical School, Boston, in 1924.

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*Tulane University of Louisiana
School of Medicine*

A course in traumatic and emergency surgery was given Nov. 30-December 1-5, and one on pediatrics will be given, January 25-28. The first course covered shock, facial injuries, amputations, burns, skin grafting, hand injuries, abdominal, thoracic and vascular injuries, back injuries, fractures, head injuries and the sulfonamides. The course on pediatrics will include a discussion of infant feeding, care of normal newborn and premature infants, blood dyscrasias, infectious diseases, heart disease, intestinal parasites and the child in relation to war.

Dr. Hiram W. Kostmayer has been appointed dean succeeding Dr. Maxwell C. Lapham now Commander U. S. Navy Medical Corps and Executive Director of Procurement and Assignment Service in Washington, D. C. Dr. Kostmayer was also appointed a member of the Committee on the Teaching of Tropical Medicine of the Association of American Medical Colleges.

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*University of Minnesota
Medical School*

The Citizens Aid Society of Minneapolis has given \$5,500 a year for five years to support a George Chase Christ-

ian professorship in cancer research. John J. Bittner, Ph.D., associate director of the board of directors of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, will be the first incumbent in the new position. Working with him will be Drs. Martin B. Visscher, professor of physiology, and Robert G. Green, professor of bacteriology and immunology.

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*Tufts College
Medical School*

Tufts has received the gift of a tract of land in downtown Boston, adjacent to the New England Medical Center of which Tufts is the teaching base. The gift was prompted by the donor's (Mr. A. Shapiro) appreciation of the rural medical extension program being developed by the Tufts faculty at the New England Medical Center, a project whereby many local communities in Maine were benefiting from the school's extension of laboratory and diagnostic services, training of local hospital technicians and assistance in organizing emergency medical protection, such as a statewide network of civilian blood banks. More than \$500,000 has been subscribed for the new building for the medical school.

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*University of Chicago
School of Medicine*

Dr. Charles B. Huggins, professor of surgery (urology), has been awarded the Catharine Berkan Judd Prize of \$1,000 for his development of a "method of treatment for prostatic cancer." The Judd Prize was established in 1937 and is administered by the board of directors of the Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York. It is awarded annually for outstanding research in the field of cancer.

More than \$50,000 to establish the Joseph B. De Lee Memorial Fund was presented to the University of Chicago November 23 at a meeting honoring the late Dr. De Lee, founder of the Chicago

Lying-in Hospital. The fund will be used to provide fellowships in the Chicago Lying-in Hospital for young physicians engaged in the specialized study of obstetrics. Ultimately the fund will be increased to \$100,000. The largest single contribution of \$20,000 was a gift from the Mothers' Aid of the hospital. The present hospital is the outgrowth of a one man dispensary started by Dr. De Lee.

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*University of California
Medical School*

Dr. Herbert F. Traut, associate professor of obstetrics and gynecology at Cornell University Medical College, has been appointed professor of gynecology and obstetrics. Dr. Traut is a graduate of the Johns Hopkins University School of Medicine.

Dr. Walter H. Brown, who this year becomes emeritus professor of hygiene and physical education at Stanford University School of Medicine, is to become professor and chairman of the department of hygiene at the University of California at Berkeley. He succeeds Dr. Robert T. Legge, who recently retired.

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*Emory University
School of Medicine*

Dr. Frank K. Boland, professor of clinical surgery has been appointed Joseph B. Whitehead professor of surgery. He succeeds Dr. Daniel C. Elkin, who resigned to take up military duties at Walter Reed General Hospital, Washington, D. C. The Whitehead professorship was created in 1939 under a grant from the Joseph B. Whitehead Foundation of Atlanta and carries a special endowment for research and teaching. Dr. Elkin was the first incumbent of the chair.

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*University of Illinois
College of Medicine*

Dr. Edward A. Schumann, formerly professor of obstetrics, University of Pennsylvania School of Medicine,

Philadelphia, delivered the Charles Sumner Bacon Lectures for 1942-1943, December 2-3. His subjects were "The Chamberlains and the Obstetric Forceps" and "Tuberculosis Involving the Female Genitalia."

A blood and plasma bank for the treatment of civilian patients is now in operation at the University of Illinois College of Medicine to serve the Research and Educational Hospitals and allied institutes in Chicago.

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*Georgetown University
School of Medicine*

Dr. Fred R. Sanderson, associate professor of surgery, has been appointed professor of surgery and director of the department and chief surgeon of Georgetown University Hospital, succeeding the late Dr. James A. CMahill.

* *

Hahnemann Medical College

The College boasts of having the only department of oncology in a medical school. Dr. Stanley P. Reiman is head of the department. The reasons for organizing such a department, its aims and objectives, an outline of the course and its relation to other subjects in the curriculum, its integration into the staff of the hospital and the experiences of such a department at Hahnemann for the past three and one-half years are described by Dr. Reiman in a paper published in *Growth*, 6:273-340, 1942.

* *

*McGill University
Faculty of Medicine*

A course of lectures and demonstrations on chemical warfare for medical men was given by the faculty under the auspices of the Director of Civil Air Raid Precaution in October. Dr. I. M. Rabinowitch, associate professor of medicine, and scientific advisor on Chemical Warfare to the Federal Office of Civil Air Raid Precautions, an outstanding authority on the subject gave the lectures and demonstrations.

*Yale University
School of Medicine*

An externship in The School of Medicine, Yale University, providing clinical training in developmental diagnosis will be open in 1943 to a qualified graduate (man or woman) of a Class A medical school. The appointment will be for a nine months' period, subject to individual arrangement, and carries a stipend of \$750.00.

It is assumed that the candidate has a primary interest in clinical pediatrics, neurology or child psychiatry. The externship is designed to furnish a well-rounded training in methods and principles of developmental diagnosis with special reference to infant behavior. Opportunity for related clinical research can be arranged.

The application should include (a) an informal but concrete statement of the applicant's underlying aim and professional interest, (b) a summary of academic record and postgraduate experience, (c) two or three letters from medical sponsors. Further credentials and recommendations are not expected on the initial application. Most weight

will be placed upon letters from sponsors who can speak concretely and confidently concerning clinical aptitude and adaptability. An interview may be required before final appointment.

Inquiries and applications may be addressed to: Dr. Arnold Gesell, Director, the Clinic of Child Development, School of Medicine, Yale University, New Haven, Connecticut.

* *

*Ohio State University
College of Medicine*

Dr. Hugh J. Means, associate professor of roentgenology, has been appointed full time director of the X-Ray Laboratory of the University Hospital with the rank of professor of roentgenology.

* *

*University of Alberta
Faculty of Medicine*

Dr. J. Ross Vant has been appointed professor of obstetrics and gynecology, succeeding the late Professor L. C. Conn. Dr. J. O. Baker is associate professor.

General News

Courses in Neurologic Surgery for Army Doctors

Twenty-five U. S. Army medical officers from various parts of the United States began a course of training in neurology and neurologic surgery at the University of Illinois College of Medicine, Chicago, September 28. Similar groups of army officers will be trained during the next few months. The course includes laboratory, clinical and lecture work at the Neuropsychiatric Institute at the university and also clinical work at Cook County Hospital. The University of Illinois School of Medicine, Chicago, and Columbia University College of Physicians and Surgeons, New York, were the only schools chosen for the special training of army officers in neurologic surgery.

* *

Parmly Foundation for Research

The Parmly Foundation has been established at the Illinois Institute of Technology to carry on research in hearing. The foundation, which was created through a trust fund of \$300,000 set aside by the late Samuel P. Parmly, Jr., a Chicago business man, will concentrate its work on the physics of hearing and plans to cooperate with the medical profession on other aspects of the problem. This is in accordance with the plan of Mr. Parmly, who also stipulated that the research must be done at an institution of learning. The offices and laboratories of the new foundation, which will begin its work at once, will be located in the physics building on the south side campus of the Illinois Institute of Technology.

* *

Commonwealth Fund Fellowships in Public Health

The Commonwealth Fund is offering through the Pan-American Sanitary Bureau fifteen fellowships for a one year study of public health subjects or

postgraduate medical courses to properly qualified persons who are citizens of the other American republics. Fellowships in public health will be open to physicians, sanitary officers, technicians, and public-health nurses. These fellows will be selected through a system of cooperation with medical and health authorities of the different countries concerned, and whenever deemed advisable they will be interviewed by traveling representatives of the Pan-American Sanitary Bureau. Each fellowship will provide tuition, traveling costs, and living allowances while the holder is in the United States.

* *

Mary Putnam Jacobi Fellowship

The Women's Medical Association of New York offers a Mary Putnam Jacobi Fellowship for medical research, of \$1000, available October first, 1943. It is open to any woman doctor, either American or foreign, who is a graduate of a reputable medical school.

Applications for this fellowship must be filed with the secretary of the committee by March first, 1943, and must be accompanied by statements by persons other than the candidate as to (1) health, (2) educational qualifications, and (3) previous work. The applicant herself should state the problem she proposes to investigate and send her photograph. As it is not practicable for the secretary to write for letters about candidates, applicants should send with their applications sufficient data to enable the committee to judge of their respective merits.

The recipient of the fellowship will be expected to give full time to the study of her problem and to make a report for publication at the completion of her research.

Application blanks may be obtained from the secretary of the committee, Dr. Phebe L. DuBois, 170 East 73rd Street, New York City.

Book News

The Essentials of Emergency Treatment

Published by the Connecticut State Medical Journal, Dr. Herbert Thoms, editor. New Haven, Connecticut. 1942.

This is a compilation of a series of articles by nineteen authors dealing with the problems of emergency practice in the treatment of injuries. Although compiled primarily for Connecticut physicians, every physician who must deal with surgical emergencies will find much of value in the work. The challenge for preparedness must be heeded and met whenever aid is demanded and when decisions important to the life of the patient, especially the victim of an accident, must be made.

♦ ♦

Human Embryology

By Joseph Krafka, Jr., M.D., Ph.D., Professor of Microscopic Anatomy, University of Georgia School of Medicine. Paul B. Hoeber, Inc. Medical Book department of Harper & Brothers, New York. 1942. Price, \$4.75.

This is the third in the Medical Student Textbook Series prepared especially for students. These books are not intended to displace larger texts. They present only the essentials which the student must master. He can enlarge on his knowledge by consulting larger texts or by reading the literature. This book is designed to provide medical students with a comprehensive view of the fundamentals of human embryology and of the correlation with clinical medicine of the recent significant discoveries in the field.

This simple, clear-cut account of the development of the human embryo is introduced by a review of the anatomy and histology of the male and the female reproductive tracts. Certain specific embryos have been chosen as representative of the stages of development in order to avoid the confusion in the older, kaleidoscopic methods of treatment. The chapters on organogeny describe the development of the bodily systems and organs with adequate detail and have been carefully arranged to avoid undue emphasis on any one part. The controversial concepts of experimental embryology and evolution and the genetic approach have been omitted in the belief that these subjects are more appropriately treated in separate courses. To encourage further research in this science, the author has pointed out the many hiatuses in the available knowledge. The bibliographies have been carefully chosen to include, with few exceptions, only human material. Practically all the illus-

trations have been made from a study of human material.

The instructor will find of special value the balanced arrangement of the text, which permits definite classroom assignments of suitable length. The student will find the terse, straight-forward style easily comprehensible. The specialist who wishes to review the embryology of his subject will find sufficient detail in an easily accessible form.

♦ ♦

Osler's Principles and Practice of Medicine

By Henry A. Christian, M.D., Hersey Professor of the Theory and Practice of Physic, Emeritus, Harvard University. 14th ed. (semicentennial). D. Appleton-Century Company, New York. 1942. Price, \$9.50.

The first edition of this book was written by William Osler, then physician-in-chief of the Johns Hopkins Hospital, Baltimore. On the death of Sir William in 1919, the work of revision was continued by Doctor McCrae, professor of medicine at Jefferson Medical School. He revised the 10th, 11th and 12th editions. In 1938, the 13th edition appeared under the present editor. For a span of fifty years, this book has epitomized the practice of medicine. The clinical descriptions, with very few exceptions, are based on personal observation. The text remains, in large measure, the portraiture of disease as it has been seen by three authors against the background of publications embodying the periodic advances in medical knowledge made by medical men the world over. Thus a continuity of thought and a balance of description have obtained throughout these many editions obviating the fault so often found by reviewers of books of multiple authorship. The text has been brought completely up-to-date much important new material being incorporated.

♦ ♦

Manual of Dermatology

Issued under the auspices of the Committee on Medicine of the National Research Council by Drs. Donald M. Pillsbury, Marion B. Sulzberger and Clarence S. Livingood. W. B. Saunders Company, Philadelphia. 1942. Price, \$2.

This book is one of the military medical manuals sponsored by the National Research Council to furnish the medical departments of the U. S. Army and Navy with compact presentations of necessary information in the field of military medicine.

Medical Parasitology

By James T. Culbertson, Assistant Professor of Bacteriology, Columbia University College of Physicians and Surgeons. Columbia University Press, New York. 1942. Price, \$4.25.

A very timely book—especially for medical students who must know more about the subject than has heretofore been the case.

This volume describes individually the parasitic animals which have medical importance and points out the various manners by which they establish themselves upon human beings. The precise ways in which man is injured by them and the accepted methods of diagnosing the infections are stated. Finally, the steps which man can take to prevent his infection are described, together with procedures which have proved effective for eliminating the parasites from persons already infected.

♦ ♦

When Doctors are Rationed

By Dwight Anderson, Director of Public Relations, Medical Society of the State of New York, and Margaret Baylous, Therapist Charleston General Hospital, West Virginia. Coward-McCann, Inc., New York. 1942. Price, \$2.

Tells the layman how to select his doctor—on the basis of his qualifications. Some of the chapters deal with "Doctors for Boom Towns;" "Women Doctors in Wartime;" "How to Avoid Fakes and Quacks;" "How to be a Good Patient;" "What to Expect of Doctors;" "How to Choose a Doctor." Altogether a very informative book for the layman and it is good reading.

♦ ♦

*Constitution and Disease:**Applied Constitutional Pathology*

By Julius Bauer, M.D., Professor of Clinical Medicine, College of Medical Evangelists; formerly Professor of Medicine, University of Vienna. Grune & Stratton, New York. 1942. Price, \$3.50.

The Author considers not one or several organs of the patient, but his whole personality, physical and mental. He stresses the role of genetics in clinical practice, with special consideration of endocrinologic disturbances; how to observe intelligently and how to gather the observations into a rational diagnosis and how to proceed in the treatment of the patient as a whole. Much of the discussion deals with general principles rather than with specific applications. Here is a preview of tomorrow's medical practice—a book that is different, in that it applies what is known of constitutional factors to individual patients as you see them in your office.

Fundamentals of Psychiatry

By Edward A. Strecker, M.D., Professor of Psychiatry, School of Medicine, University of Pennsylvania. J. B. Lippincott Company, Philadelphia. 1942. Price, \$3.

The author stresses that every physician must acquire a minimum of psychiatric information. He feels that about five years of special study are needed to make a psychiatrist and since it would not be feasible to make psychiatrists of many physicians, he offers this very handy, compact book to physicians and medical officers in the hope of supplying briefly and concisely an opportunity to meet this demand. Medical students will find the book very useful for study of psychiatry.

♦ ♦

Surgical Pathology

By William Boyd, M.D., Professor of Pathology, University of Toronto. Ed. 5. W. B. Saunders Company, Philadelphia. 1942. Price, \$10.

A thorough revision with elimination of much dead wood and the addition of many new illustrations to replace old ones. Much new subject matter has been added. The references at the end of each chapter have been rearranged under new subject headings instead of authors' names. The relation of pathology to symptomatology is stressed; the clinical features of most conditions are summarized. An excellent text for the medical student.

♦ ♦

Laboratory Directions in Biochemistry

By Victor C. Myers, M.D., Ph.D., Professor of Biochemistry, Western Reserve University. The C. V. Mosby Company, St. Louis, Mo. 1942. Price, \$3.50.

These directions are the result of the author's long experience teaching biochemistry. He has found that students are able to accomplish considerably more with less confusion when laboratory directions are prepared to fit the time of their particular course. The contents cover biochemistry, clinical biochemistry, dental biochemistry and an appendix.

♦ ♦

Fractures

By Paul B. Magnuson, M.D., Associate Professor of Surgery, Northwestern University Medical School. Ed. 4. J. B. Lippincott Company, Philadelphia. 1942. Price, \$5.50.

Revised to present information on the effective primary treatment and the transportation of fracture cases as they occur in war. The treatment of wounds, especially wounds in compound fractures, debridement of wounds, the use of sulfotherapy and the treatment of shock are also included.

MEMBERS—Continued

Massachusetts

Boston University School of Medicine,
Boston.
Harvard Medical School, Boston.
Tufts College Medical School, Boston.

Michigan

University of Michigan Medical School,
Ann Arbor.
Wayne University College of Medicine,
Detroit.

Minnesota

University of Minnesota Medical School,
Minneapolis.
University of Minnesota Graduate School,
Medical Department (Mayo Founda-
tion), Minneapolis and Rochester.

Mississippi

University of Mississippi School of Medi-
cine, University.

Missouri

St. Louis University School of Medicine,
St. Louis.
University of Missouri School of Medi-
cine, Columbia.
Washington University School of Medi-
cine, St. Louis.

Nebraska

Creighton University School of Medicine,
Omaha.
University of Nebraska College of Medi-
cine, Omaha.

New Hampshire

Dartmouth Medical School, Hanover.

New York

Albany Medical College, Albany.
Columbia University College of Physi-
cians and Surgeons and New York Post
Graduate Medical School, New York.
Cornell University Medical College, New
York.
Long Island College of Medicine, Brook-
lyn.
New York Medical College and Flower
Hospital, New York.
New York University College of Medi-
cine, New York.
Syracuse University College of Medicine,
Syracuse.
University of Buffalo School of Medicine,
Buffalo.
University of Rochester School of Medi-
cine, Rochester.

North Carolina

Duke University School of Medicine,
Durham.
University of North Carolina School of
Medicine, Chapel Hill.
Bowman Gray School of Medicine of
Wake Forest College, Winston-Salem.

Ohio

Ohio State University College of Medi-
cine, Columbus.
University of Cincinnati College of Medi-
cine, Cincinnati.
Western Reserve University School of
Medicine, Cleveland.

Oklahoma

University of Oklahoma School of Medi-
cine, Oklahoma City.

Oregon

University of Oregon Medical School,
Portland.

Pennsylvania

Hahnemann Medical College and Hospi-
tal, Philadelphia.
Jefferson Medical College of Philadelphia.
Temple University School of Medicine,
Philadelphia.
University of Pennsylvania School of
Medicine and Graduate School of
Medicine, Philadelphia.
University of Pittsburgh School of Medi-
cine, Pittsburgh.
Woman's Medical College of Pennsyl-
vania, Philadelphia.

Philippine Islands

University of the Philippines College of
Medicine, Manila.

South Carolina

Medical College of the State of South
Carolina, Charleston.

South Dakota

University of South Dakota School of
Medicine, Vermillion.

Tennessee

Meharry Medical College, Nashville.
University of Tennessee College of Medi-
cine, Memphis.
Vanderbilt University School of Medi-
cine, Nashville.

Texas

Baylor University College of Medicine,
Dallas.
University of Texas Department of
Medicine, Galveston.

Utah

University of Utah School of Medicine,
Salt Lake City.

Vermont

University of Vermont College of Medi-
cine, Burlington.

Virginia

Medical College of Virginia, Richmond.
University of Virginia Department of
Medicine, Charlottesville.

West Virginia

West Virginia University School of Medi-
cine, Morgantown.

Wisconsin

Marquette University School of Medicine,
Milwaukee.
University of Wisconsin Medical School,
Madison.



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